

NASA Contractor Report 181764

ICASE INTERIM REPORT 6

A BIBLIOGRAPHY ON PARALLEL AND VECTOR NUMERICAL ALGORITHMS

James M. Ortega, Robert G. Voigt, and Charles H. Romine

NASA Contract No. NAS1-18107, NAS1-18605
December 1988

(NASA-CR-181764) A BIBLIOGRAPHY ON PARALLEL
AND VECTOR NUMERICAL ALGORITHMS Final Report
(NASA) 90 p CSCL 09B

N89-16396

Unclass
G3/61 0189713

INSTITUTE FOR COMPUTER APPLICATIONS IN SCIENCE AND ENGINEERING
NASA Langley Research Center, Hampton, Virginia 23665

Operated by the Universities Space Research Association



National Aeronautics and
Space Administration

Langley Research Center
Hampton, Virginia 23665-5225

ICASE INTERIM REPORTS

ICASE has introduced a new report series to be called ICASE Interim Reports. The series will complement the more familiar blue ICASE reports that have been distributed for many years. The blue reports are intended as preprints of research that has been submitted for publication in either refereed journals or conference proceedings. In general, the green Interim Report will not be submitted for publication, at least not in its printed form. It will be used for research that has reached a certain level of maturity but needs additional refinement, for technical reviews or position statements, for bibliographies, and for computer software. The Interim Reports will receive the same distribution as the ICASE Reports. They will be available upon request in the future, and they may be referenced in other publications.

Robert G. Voigt
Director

A BIBLIOGRAPHY ON PARALLEL AND VECTOR NUMERICAL ALGORITHMS

JAMES M. ORTEGA*, ROBERT G. VOIGT† AND CHARLES H. ROMINE‡

Since parallel and vector computation is expanding rapidly, we hope that the references we have collected over the years will be of some value to researchers entering the field. Although we make the usual caveat that we do not claim completeness, we have in fact listed everything of which we are aware. Our apologies in advance to authors whose works we have missed. (Please send us your references.) It is our intent to keep this bibliography up to date. For further information about access to the bibliography, send email to either romine@msr.epm.ornl.gov or rgv@icase.edu.

Although this is a bibliography on numerical methods, we have included a number of other references on machine architecture, programming languages, and other topics of interest to scientific computing.

Certain conference proceedings and anthologies that have been published in book form we list under the name of the editor (or editors) and then list individual articles with a pointer back to the whole volume; for example, the reference

[225] A. BRANDT [1981]. *Multigrid solvers on parallel computers*, in Schultz[1742], pp. 39–83.

refers to the article by Brandt in the volume listed under [1742] M. SCHULTZ. Note that the cross-reference is by reference number, not by year.

REFERENCES

- [1] H. ABDEL-WAHAB AND T. KAMEDA [1978]. *Scheduling to minimize maximum cumulative cost subject to series-parallel precedence constraints*, Oper. Res., 26, pp. 141–158.
- [2] I. ABSAR [1983]. *Vectorization of a penalty function algorithm for well scheduling*, in Gary [700], pp. 361–370.
- [3] I. ABU-SHOMAYS [1985]. *Comparison of methods and algorithms for tridiagonal systems and for vectorization of diffusion computation*, in Numrich [1462], pp. 29–56.
- [4] W. ABU-SUFAH AND A. MALONY [1986]. *Experimental results for vector processing on the Alliant FX/8*, Tech. Report 539, Center for Supercomputing Research and Development, University of Illinois at Urbana-Champaign, February.

* The work of this author was supported in part by the National Aeronautics and Space Administration under NASA Contract No. NAS-1-46-6.

† The work of this author was supported by the National Aeronautics and Space Administration under NASA Contract Nos. NAS1-18107 and NAS1-18605 at the Institute for Computer Applications in Science and Engineering (ICASE), NASA Langley Research Center, Hampton, VA 23665.

‡ The work of this author was supported by the Applied Mathematical Sciences Research Program, Office of Energy Research, U.S. Department of Energy under contract DE-AC05-84OR21400 with Martin Marietta Energy Systems Inc.

- [5] W. ABU-SUFAH AND A. MALONY [1986]. *Vector processing on the Alliant FX/8 multiprocessor*, Proc. 1986 Int. Conf. Par. Proc., pp. 559–566.
- [6] T. ADAM, K. CHANDY, AND J. DICKSON [1974]. *A comparison of list schedules for parallel processing systems*, Comm. ACM, 17, pp. 685–690.
- [7] G. ADAMS, R. BROWN, AND P. DENNING [1985]. *On evaluating parallel computing systems*, Tech. Report TR-85.3, RIACS, NASA Ames Research Center, May.
- [8] G. ADAMS, R. BROWN, AND P. DENNING [1985]. *Report on an evaluation study of data flow computation*, Tech. Report TR-85.2, RIACS, NASA Ames Research Center, April.
- [9] L. ADAMS [1982]. *Iterative Algorithms for Large Sparse Linear Systems on Parallel Computers*, PhD dissertation, The University of Virginia, Department of Applied Mathematics and Computer Science. Also published as NASA CR-166027, NASA Langley Research Center.
- [10] L. ADAMS [1983]. *An M-step preconditioned conjugate gradient method for parallel computation*, Proc. 1983 Int. Conf. Par. Proc., pp. 36–43.
- [11] L. ADAMS [1985]. *M-step preconditioned conjugate gradient methods*, SIAM J. Sci. Statist. Comput., 6, pp. 452–463.
- [12] L. ADAMS [1986]. *Reordering computations for parallel execution*, Comm. Appl. Numer. Meth., 2, pp. 263–271.
- [13] L. ADAMS AND T. CROCKETT [1984]. *Modeling algorithm execution time on processor arrays*, Computer, 17(7), pp. 38–43.
- [14] L. ADAMS AND H. JORDAN [1985]. *Is SOR color-blind?*, SIAM J. Sci. Statist. Comput., 7, pp. 490–506.
- [15] L. ADAMS AND E. ONG [1987]. *Additive polynomial preconditioners for parallel computers*, Parallel Computing. To appear.
- [16] L. ADAMS AND J. ORTEGA [1982]. *A multi-color SOR method for parallel computation*, Proc. 1982 Int. Conf. Par. Proc., pp. 53–56.
- [17] L. ADAMS AND R. VOIGT [1984]. *Design, development and use of the Finite Element Machine*, in Parter [1522], pp. 301–321.
- [18] L. ADAMS AND R. VOIGT [1984]. *A methodology for exploiting parallelism in the finite element process*, in Kowalik [1111], pp. 373–392.
- [19] N. ADAMS AND O. JOHNSON [1985]. *A vector elastic model for the Cyber 205*, in Numrich [1462], pp. 101–114.
- [20] T. AGERWALA AND ARVIND. [1982]. *Data flow systems*, Computer, 15(2), pp. 10–13.
- [21] V. AGGARNAL, S. DHALL, J. DIAZ, AND S. LAKSHMIRAHUN [1985]. *A parallel algorithm for solving large scale sparse linear systems using block pre-conditioned conjugate gradient method on an MIMD machine*, Tech. Report OU-PPI, TR-85-02, Schools of Electrical Engineering and Computer Science, University of Oklahoma, January.
- [22] A. AGGARWAL, B. CHAZELLE, L. GUIBAS, C. O'DUNLAING, AND C. YAP [1985]. *Parallel computational geometry*, Proc. IEEE Conference on Fundamentals of Computer Science, pp. 468–477.
- [23] D. AGRAWAL, ed. [1986]. *Advanced Computer Architecture*, North-Holland, Amsterdam.
- [24] R. AHLBERG AND B. GUSTAFSSON [1984]. *A note on parallel algorithms for partial differential equations*, in Feilmeier et al. [623], pp. 93–98.
- [25] H. AHMED, J. DELOSME, AND M. MORF [1982]. *Highly concurrent computing structures for matrix arithmetic and signal processing*, Computer, 15(1), pp. 65–82.
- [26] G. ALAGHBAND [1987]. *Parallel pivoting combined with parallel reduction*, Tech. Report 87-75, ICASE, NASA Langley Research Center, Hampton, VA, December.
- [27] G. ALAGHBAND [1988]. *Multiprocessor Sparse LU Decomposition with Controlled Fill-in*, PhD dissertation, University of Colorado, Boulder, Department of Electrical and Computer Engineering.
- [28] G. ALAGHBAND AND H. JORDAN [1983]. *Parallelization of the MA28 sparse matrix package for the HEP*, Tech. Report CSDG-83-3, Department of Electrical and Computer Engineer-

- ing, University of Colorado, Boulder.
- [29] G. ALAGHBAND AND H. JORDAN [1985]. *Multiprocessor sparse L/U decomposition with controlled fill-in*, Tech. Report 85-48, ICASE, NASA Langley Research Center, Hampton, VA.
 - [30] G. ALAGHBAND AND H. JORDAN [1986]. *Sparse Gaussian elimination with controlled fill-in on a shared memory multiprocessor*, ECSE Tech. Report 86-1-5, Department of Electrical and Computer Engineering, University of Colorado, Boulder.
 - [31] T. ALLEN AND G. CYBENKO [1987]. *Recursive binary partitions*, Tech. Report, Department of Computer Science, Tufts University, October.
 - [32] E. ALLROTH [1984]. *Minimization of the processing time of parallel computers*, Physics Letters, 106A(7), pp. 329–331.
 - [33] V. ALMEIDA, L. DOWDY, AND M. LEUZE [1988]. *An analytic model for parallel Gaussian elimination on a binary N-cube*, in Fox et al. [651], pp. 1550–1553.
 - [34] R. ALT [1985]. *Computing roots of polynomials on vector processing machines*, Comm. Appl. Numer. Meth., 1, pp. 299–308.
 - [35] H. AMANO, T. BOKU, T. KUDOH, AND H. AISO [1985]. *A new version of the sparse matrix solving machine*, Proc. 12th International Symposium on Computer Architecture, pp. 100–107.
 - [36] G. AMDAHL [1967]. *The validity of the single processor approach to achieving large scale computing capabilities*, AFIPS Conf. Proc., 30, pp. 483–485.
 - [37] G. AMDAHL [1988]. *Limits of expectation*, Int. J. Supercomputer Appl., 2(1), pp. 88–97.
 - [38] D. ANDERSON, A. FRY, R. GRUBER, AND A. ROY [1987]. *Giga flop speed algorithm for the direct solution of large block-tridiagonal systems in 3D physics applications*, Tech. Report UCRL-96034, Lawrence Livermore National Laboratory. Submitted to J. Parallel Comput.
 - [39] D. ANDERSON, A. FRY, R. GRUBER, AND A. ROY [1987]. *Plasma physics at gigaflops on the CRAY-2*, Third Symposium on Science and Engineering on Cray Supercomputers, Minneapolis, MN.
 - [40] D. ANDERSON, R. GRUBER, A. FRY, AND A. ROY [1987]. *Parallel cyclic reduction algorithm for the direct solution of large block-tridiagonal systems*, First International Conference Industrial and Applied Math., Paris.
 - [41] D. ANDERSON, R. GRUBER, AND A. ROY [1987]. *Measurements and estimates of the PAMS plasma equilibrium solver on existing and near-term supercomputers*, Twelfth Conf. on Numerical Simulation of Plasmas, San Francisco, CA. (Paper PM11).
 - [42] D. ANDERSON, E. HOROWITZ, A. KONIGES, AND M. MCCOY [1986]. *Parallel computing and multitasking*, Comput. Phys. Comm., 43, pp. 69–88.
 - [43] D. ANDERSON, A. KONIGES, M. MCCOY, AND A. MIRIN [1987]. *A survey of linear systems solvers on the NMFECC system*, American Physical Society Division of Plasma Physics Meeting, San Diego, CA. Paper 6S10.
 - [44] G. ANDERSON AND E. JENSEN [1975]. *Computer interconnection structures: Taxonomy, characteristics, and examples*, ACM Computing Surveys, 7, pp. 197–213.
 - [45] J. ANDERSON [1965]. *Program structures for parallel processing*, Comm. ACM, 8, pp. 786–788.
 - [46] R. ANDERSON, R. GRIMES, R. RIEBMAN, AND H. SIMON [1987]. *Early experience with the SCS-40*, Supercomputer, 22, pp. 26–36.
 - [47] R. ANDERSON, R. GRIMES, AND H. SIMON [1987]. *Performance comparison of the CRAY X-MP/24 and the CRAY-2*, Tech. Report ETA-TR-57, Boeing Computer Services, July.
 - [48] F. ANDRE, D. HERMAN, AND J. VARJUS [1985]. *Synchronization of Parallel Programs*, MIT Press, Cambridge.
 - [49] G. ANDREWS AND F. SCHNEIDER [1983]. *Concepts and notations for concurrent programming*, ACM Computing Surveys, 15, pp. 3–43.
 - [50] M. ANNARATONE, E. ARNOULD, T. GROSS, H. KUNG, M. LAM, AND O. MENZILCIOGLU [1986]. *WARP architecture and implementation*, SPIE Real Time Signal Processing IX.
 - [51] M. ANNARATONE, E. ARNOULD, T. GROSS, H. KUNG, M. LAM, O. MENZILCIOGLU, AND

- J. WEBB [1987]. *The Warp computer: Architecture, implementation, and performance*, IEEE Trans. Comput., C-36, pp. 1523–1538.
- [52] M. ANWAR AND M. EL TARZI [1985]. *Asynchronous algorithms for Poisson's equation with nonlinear boundary conditions*, Computing, 34, pp. 155–168.
- [53] N. ARENSTORF AND H. JORDAN [1987]. *Comparing barrier algorithms*, Tech. Report 87-65, ICASE, NASA Langley Research Center.
- [54] J. ARMSTRONG [1987]. *Optimization of Householder transformations part I. Linear least squares*, Proc. 1987 Int. Conf. Par. Proc., pp. 495–498.
- [55] W. ARMSTRONG, T. MARSLAND, M. OLAFSSON, AND J. SCHAEFFER [1987]. *Solving equations of motion on a virtual tree machine*, SIAM J. Sci. Statist. Comput., 8, pp. s59–s72.
- [56] C. ARNOLD [1982]. *Performance evaluation of three automatic vectorizer packages*, Proc. 1982 Int. Conf. Par. Proc., pp. 235–242.
- [57] C. ARNOLD [1983]. *Vector optimization on the CYBER 205*, Proc. 1983 Int. Conf. Par. Proc., pp. 530–536.
- [58] C. ARNOLD [1984]. *Machine independent techniques for scientific supercomputing*, Proc. COMPCON 84, IEEE Comp. Sci. Conf., pp. 74–83.
- [59] C. ARNOLD, M. PARR, AND M. DEWE [1983]. *An efficient parallel algorithm for the solution of large sparse linear matrix equations*, IEEE Trans. Comput., C-32, pp. 265–273.
- [60] D. ARPASI AND E. MILNER [1986]. *Mathematical model partitioning and packing for parallel computer calculation*, Proc. 1986 Int. Conf. Par. Proc., pp. 67–74.
- [61] ARVIND AND R. BRYANT [1979]. *Parallel computers for partial differential equations simulation*, Proc. Scientific Computer Information Exchange Meeting, Livermore, CA, pp. 94–102.
- [62] ARVIND AND V. KATHAIL [1981]. *A multiple processor data flow machine that supports generalized procedures*, 8th Annual Sym. Comp. Arch., May, pp. 291–302.
- [63] S. ARYA AND D. CALAHAN [1981]. *Optimal scheduling of assembly language kernels for vector processors*, 19th Allerton Conf. on Comm. Control and Computers, University of Illinois at Urbana-Champaign.
- [64] C. ASHCRAFT [1985]. *A moving computation front approach for vectorizing ICCG calculations*, Tech. Report GMR-5174, General Motors Research Lab.
- [65] C. ASHCRAFT [1985]. *Parallel reduction methods for the solution of banded systems of equations*, Computer Science Tech. Report, General Motors, June.
- [66] C. ASHCRAFT [1987]. *Domain decoupled incomplete factorizations*, Applied Mathematics Tech. Report ETA-TR-49, Boeing Computer Services.
- [67] C. ASHCRAFT [1987]. *A vector implementation of the multifrontal method for large sparse, symmetric positive definite linear systems*, Applied Mathematics Tech. Report ETA-TR-51, Boeing Computer Services.
- [68] C. ASHCRAFT AND R. GRIMES [1987]. *The influence of relaxed supernode partitions on the multifrontal method*, Tech. Report ETA-TR-60, Boeing Computer Services.
- [69] C. ASHCRAFT AND R. GRIMES [1988]. *On vectorizing incomplete factorization and SSOR preconditioners*, SIAM J. Sci. Statist. Comput., 9, pp. 122–151.
- [70] C. ASHCRAFT, R. GRIMES, J. LEWIS, B. PEYTON, AND H. SIMON [1987]. *Recent progress in sparse matrix methods for large linear systems on vector supercomputers*, Int. J. Supercomputer Appl., 1, pp. 10–30.
- [71] C. ASHCRAFT, J. LEWIS, AND B. PEYTON [1987]. *A supernodal implementation of general sparse factorization for vector computers*, Tech. Report ETA-TR-52, Boeing Computer Services.
- [72] C. ASHCRAFT, G. SHOOK, AND J. JONES [1986]. *A computational survey of the conjugate gradient preconditioners on the CRAY 1-S*, Tech. Report GMR-5299, General Motors Research Lab.
- [73] M. ASHWORTH AND A. LYNE [1988]. *A segmented FFT algorithm for vector computers*, Parallel Computing, 6, pp. 217–224.

- [74] S. ASKEW AND F. WALKDEN [1984]. *On the design and implementation of a package for solving a class of partial differential equations*, in Paddon [1505], pp. 107–114.
- [75] V. ASRIELI [1985]. *Base language of the programming system of a vector processor*, Computational Processes and Systems, Izdatel'stvo Nauka, Moscow, pp. 73–83.
- [76] V. ASRIELI AND P. BORISOV [1985]. *Experience with programming a vector processor for the solution of the Navier-Stokes equations in a three-dimensional region*, Computational Processes and Systems, Izdatel'stvo Nauka, Moscow, pp. 84–90.
- [77] W. ATHAS AND C. SEITZ [1988]. *Multicomputers: Message-passing concurrent computers*, Computer, 21(8), pp. 9–24.
- [78] J. AVILA AND J. TOMLIN [1979]. *Solution of very large least squares problems by nested dissection on a parallel processor*, Proc. Computer Science and Statistics: Twelfth Annual Symposium on the Interface, J. Gentleman, ed., Waterloo, Ontario, Canada, University of Waterloo, pp. 9–14.
- [79] A. AVIZIENIS, M. EVCEGOVAC, T. LANG, P. SYLVAIN, AND A. THOMASIAN [1977]. *An investigation of fault-tolerant architectures for large scale numerical computing*, in Kuck et al. [1128], pp. 159–183.
- [80] T. AXELROD [1986]. *Effects of synchronization barriers on multiprocessor performance*, Parallel Computing, 3, pp. 129–140.
- [81] O. AXELSSON [1985]. *A survey of vectorizable preconditioning methods for large scale finite element matrix problems*, BIT, 25, pp. 166–187.
- [82] O. AXELSSON [1986]. *Analysis of incomplete matrix factorizations as multigrid smoothers for vector and parallel computers*, Appl. Math. & Comp., 19(1-4). (Special Issue, Proceedings of the Second Copper Mountain Conference on Multigrid Methods, Copper Mountain, CO, S. McCormick, ed.).
- [83] O. AXELSSON [1988]. *Incomplete block matrix factorization preconditioning methods. The ultimate answer?*, J. Comput. Appl. Math., 12/13, pp. 3–18.
- [84] O. AXELSSON AND V. EIJKHOUT [1986]. *A note on the vectorization of scalar recursions*, Parallel Computing, 3, pp. 73–84.
- [85] C. AYKANAT, S. DORAIVELU, P. SADAYAPPAN, K. SCHWAN, AND B. WEIDE [1986]. *Parallel computers and finite element analysis*, 1986 ASME Int. Conf. Computers in Engineering, pp. 43–50.
- [86] C. AYKANAT AND F. OZGUNER [1987]. *Large grain parallel conjugate gradient algorithms on a hypercube multiprocessor*, Proc. 1987 Int. Conf. Par. Proc., pp. 641–644.
- [87] C. AYKANAT, F. OZGUNER, S. MARTIN, AND S. DORAIVELU [1987]. *Parallelization of a finite element application program on a hypercube multiprocessor*, in Heath [858], pp. 662–673.
- [88] R. BABB [1984]. *Parallel processing with large-grain data flow techniques*, Computer, 17(7), pp. 55–61.
- [89] R. BABB [1986]. *Parallel processing on the CRAY X-MP with large-grain data flow techniques*, in Fernbach [630], pp. 239–251.
- [90] R. BABB, L. STORC, AND R. HIROMOTO [1986]. *Developing a parallel Monte Carlo transport algorithm using large-grain data flow*, Tech. Report LA-UR-86-2080, Los Alamos National Laboratory.
- [91] I. BABUSKA AND H. ELMAN [1988]. *Some aspects of parallel implementation of the finite element method on message passing architectures*, Tech. Report CS-TR-2030, Department of Computer Science, University of Maryland.
- [92] S. BADEN [1986]. *Dynamic load balancing of a vortex calculation running on multiprocessors*, Tech. Report LBL-22584, Lawrence Berkeley Laboratory, December.
- [93] J.-L. BAER [1973]. *A survey of some theoretical aspects of multiprocessing*, ACM Computing Surveys, 5, pp. 31–80.
- [94] J.-L. BAER [1977]. *Multiprocessing systems*, IEEE Trans. Comput., C-25, pp. 1271–1277.

- [95] J.-L. BAER [1980]. *Supercomputers*, Computer Systems Architecture, Computer Science Press, Los Alamitos, CA.
- [96] J.-L. BAER [1984]. *Computer architecture*, Computer, 17(10), pp. 77–87.
- [97] D. BAILEY [1987]. *A high performance fast Fourier transform algorithm for the CRAY-2*, J. Supercomputing, 1, pp. 43–60.
- [98] D. BAILEY [1988]. *Extra high speed matrix multiplication on the Cray-2*. SIAM J. Sci. Statist. Comput., 8, pp. 603–607.
- [99] D. BAILEY, J. CUNY, AND B. MACLEOD [1987]. *Reducing communication overhead: A parallel code optimization*, J. Par. Dist. Comp., 4, pp. 505–520.
- [100] E. BAJAJ, W. DYKSEN, C. HOFFMAN, E. HOUSTIS, J. KORB, AND J. RICE [1987]. *Computing about physical objects*, Tech. Report TR-696, Department of Computer Science, Purdue University.
- [101] K. BAKER AND L. SCHRAGE [1978]. *Finding an optimal sequence by dynamic programming: An extension to precedence-related tasks*, Oper. Res., 26, pp. 111–120.
- [102] W. BALLHAUS [1984]. *Computational aerodynamics and supercomputers*, Proc. COMPCON 84, IEEE Comp. Soc. Conf., pp. 3–14.
- [103] I. BAR-ON [1987]. *A practical parallel algorithm for solving band symmetric positive definite systems of linear equations*, ACM Trans. Math. Softw., 13, pp. 323–332.
- [104] D. BARKAI AND A. BRANDT [1983]. *Vectorized multigrid Poisson solver for the CDC CYBER 205*, Appl. Math. & Comp., 13(3-4), pp. 215–228. (Special Issue, Proceedings of the First Copper Mountain Conference on Multigrid Methods, Copper Mountain, CO, S. McCormick and U. Trottenberg, eds.).
- [105] D. BARKAI, M. CAMPOSTRINI, K. MORIARTY, AND L. RABBI [1987]. *Applications development of the ETA-10*, Comput. Phys. Comm., 46, pp. 13–33.
- [106] D. BARKAI AND K. MORIARTY [1986]. *Application development on the CDC Cyber 205*, Comput. Phys. Comm., 40, pp. 159–172.
- [107] D. BARKAI AND K. MORIARTY [1986]. *Vectorization of the multigrid method: The two-dimensional Poisson equation*, Tech. Report UMSI 86145, University of Minnesota, September.
- [108] D. BARKAI, K. MORIARTY, AND C. REBBI [1984]. *A highly optimized vectorized code for Monte Carlo simulation of SU(3) lattice gauge theories*, Comput. Phys. Comm., 32, pp. 1–9.
- [109] D. BARKAI, K. MORIARTY, AND C. REBBI [1984]. *A highly optimized vectorized code for Monte Carlo simulation of SU(3) lattice gauge theories*, Proc. 1984 Int. Conf. Par. Proc., pp. 101–108.
- [110] D. BARKAI, K. MORIARTY, AND C. REBBI [1984]. *A modified conjugate gradient solver for very large systems*, in Numrich [1462].
- [111] D. BARKAI, K. MORIARTY, AND C. REBBI [1985]. *A modified conjugate gradient solver for very large systems*, Comp. Phys. Comm., 36, pp. 1–8.
- [112] D. BARKAI, K. MORIARTY, AND C. REBBI [1985]. *A modified conjugate gradient solver for very large systems*, Proc. 1985 Int. Conf. Par. Proc., pp. 284–290.
- [113] J. BARLOW AND I. IPSEN [1987]. *Scaled Givens rotations for the solution of linear least squares problems on systolic arrays*, SIAM J. Sci. Statist. Comput., 8, pp. 716–733.
- [114] R. BARLOW AND D. EVANS [1982]. *Synchronous and asynchronous iterative parallel algorithms for linear systems*, Comput. J., 25, pp. 56–60.
- [115] R. BARLOW, D. EVANS, AND J. SHANEHCHI [1982]. *Comparative study of the exploitation of different levels of parallelism on different parallel architectures*, Proc. 1982 Int. Conf. Par. Proc., pp. 34–40.
- [116] R. BARLOW, D. EVANS, AND J. SHANEHCHI [1983]. *Parallel multisection applied to the eigenvalue problem*, Comput. J., 6, pp. 6–9.
- [117] R. BARLOW, D. EVANS, AND J. SHANEHCHI [1984]. *Sparse matrix vector multiplication on*

- the DAP*, in Paddon [1505], pp. 147–155.
- [118] G. BARNES, R. BROWN, M. KATZ, D. KUCK, D. SLOTNICK, AND R. STOKER [1968]. *The Illiac IV computer*, IEEE Trans. Comput., C-17, pp. 746–757.
 - [119] K. BATCHER [1974]. *STARAN parallel processor system hardware*, AFIPS Conf. Proc. 43, NCC, pp. 405–410.
 - [120] K. BATCHER [1976]. *The Flip network in STARAN*, Proc. 1976 Int. Conf. Par. Proc., P. H. Enslow, ed., Silver Spring, MD, Institute of Electrical and Electronics Engineers, Inc., pp. 65–71.
 - [121] K. BATCHER [1979]. *MPP — A Massively Parallel Processor*, Proc. 1979 Int. Conf. Par. Proc., p. 249.
 - [122] K. BATCHER [1980]. *Design of a Massively Parallel Processor*, IEEE Trans. Comput., C-29, pp. 836–840.
 - [123] K. BATCHER [1985]. *The Massively Parallel Processor system overview*, in Potter [1577], pp. 142–149.
 - [124] G. BAUDET [1977]. *Iterative methods for asynchronous multiprocessors*, in Kuck et al. [1128], pp. 309–310.
 - [125] G. BAUDET [1978]. *Asynchronous iterative methods for multiprocessors*, J. ACM, 25, pp. 226–244.
 - [126] D. BAXTER, J. SALTZ, M. SCHULTZ, S. EISENSTAT, AND K. CROWLEY [1988]. *An experimental study of methods for parallel preconditioned Krylov methods*, Tech. Report RR-629, Department of Computer Science, Yale University.
 - [127] G. BEHIE AND P. FORSYTH [1984]. *Incomplete factorization methods for fully implicit simulation of enhanced oil recovery*, SIAM J. Sci. Statist. Comput., 5, pp. 543–561.
 - [128] M. BEKAKOS AND D. EVANS [1987]. *A rotating and folding algorithm using a two-dimensional “systolic” communication geometry*, Parallel Computing, 4, pp. 221–228.
 - [129] C. BELL [1985]. *Multis: A new class of multiprocessor computers*, Science, 228, pp. 462–467.
 - [130] J. BELL AND G. PATTERSON [1987]. *Data organization in large numerical computations*, J. Supercomputing, 1, pp. 105–136.
 - [131] M. BEN-ARI [1982]. *Principles of Concurrent Programming*, Prentice-Hall, Inc., Englewood Cliffs, NJ.
 - [132] V. BENES [1962]. *Heuristic remarks and mathematical problems regarding the theory of connecting systems*, Bell System Tech. J., 41, pp. 1201–1247.
 - [133] V. BENES [1965]. *Mathematical Theory of Connecting Networks and Telephone Traffic*, Academic Press, New York.
 - [134] R. BENNER [1986]. *Shared memory, cache, and frontwidth considerations in multifrontal algorithm development*, Tech. Report SAND85-2752, Fluid and Thermal Sciences Department, Sandia National Laboratories, Albuquerque, NM.
 - [135] R. BENNER AND G. MONTRY [1986]. *Overview of preconditioned conjugate gradient (PCG) methods in concurrent finite element analysis*, Tech. Report SAND-85-2727, Sandia National Laboratory, Albuquerque, NM.
 - [136] M. BENSON AND P. FREDERICKSON [1987]. *Fast parallel algorithms for the Moore-Penrose pseudo-inverse*, in Heath [858], pp. 597–604.
 - [137] M. BENSON AND P. FREDERICKSON [1988]. *Fast pseudo-inverse algorithms on hypercubes*, in McCormick [1306].
 - [138] M. BENSON, J. KRETTMANN, AND M. WRIGHT [1984]. *Parallel algorithms for the solution of certain large sparse linear systems*, Int. J. Comput. Math., 16, pp. 245–260.
 - [139] P. BENYON [1985]. *Exploiting vector computers for simulation*, Math. Comp. Simul., 27, pp. 121–127.
 - [140] H. BERENDSEN, W. VAN GUNSTEREN, AND J. POSTMA [1984]. *Molecular dynamics on CRAY, CYBER and DAP*, in Kowalik [1111], pp. 425–438.
 - [141] M. BERGER AND S. BOKHARI [1985]. *A partitioning strategy for PDE’s across multiproces-*

- sors*, Proc. 1985 Int. Conf. Par. Proc., pp. 166–170.
- [142] M. BERGER AND S. BOKHARI [1987]. *Partitioning strategy for non-uniform problems on multiprocessors*, IEEE Trans. Comput., C-36, pp. 570–580.
- [143] M. BERGER, J. OLIGER, AND G. RODRIGUE [1981]. *Predictor-corrector methods for the solution of time dependent parabolic problems on parallel processors*, in Schultz [1742], pp. 197–202.
- [144] P. BERGER, P. BROUAYE, AND J. SYRE [1982]. *A mesh coloring method for efficient MIMD processing in finite element problems*, Proc. 1982 Int. Conf. Par. Proc., pp. 41–46.
- [145] P. BERGER, M. DAYDE, AND C. FRABOUL [1985]. *Experience in parallelizing numerical algorithms for MIMD architecture use of asynchronous methods*, La Recherche Aerospatiale, 5, pp. 325–340.
- [146] D. BERGMARK, J. FRANCIONI, B. HELMINEN, AND D. POPLAWSKI [1987]. *On the performance of the FPS T-series hypercube*, in Heath [858], pp. 193–199.
- [147] F. BERMAN AND L. SNYDER [1987]. *On mapping parallel algorithms into parallel architectures*, J. Par. Dist. Comp., 4, pp. 439–458.
- [148] L. BERNARD AND F. HELTON [1982]. *A vectorizable eigenvalue solver for sparse matrices*, Comput. Phys. Comm., 25, pp. 73–79.
- [149] H. BERNSTEIN AND M. GOLDSTEIN [1986]. *Parallel implementation of bisection for the calculation of eigenvalues of tridiagonal symmetric matrices*, Computing, 37, pp. 85–91.
- [150] H. BERNSTEIN AND M. GOLDSTEIN [1988]. *Optimizing Givens' algorithm for multiprocessors*, SIAM J. Sci. Statist. Comput., 8, pp. 601–602.
- [151] M. BERRY, K. GALLIVAN, W. HARROD, W. JALBY, S. LO, U. MEIER, B. PHILLIPPE, AND A. SAMEH [1986]. *Parallel algorithms on the Cedar system*, Tech. Report 581, Center for Supercomputing Research and Development, University of Illinois at Urbana-Champaign, October.
- [152] M. BERRY AND R. PLEMMONS [1985]. *Computing a banded basis of the null space on the Denelcor HEP multiprocessor*, Contemporary Math., 47, pp. 7–23.
- [153] M. BERRY AND R. PLEMMONS [1985]. *Parallel algorithms for finite element structural analysis on the HEP multiprocessor*, Proc. Denelcor Workshop on the HEP, University of Oklahoma, March.
- [154] M. BERRY AND R. PLEMMONS [1987]. *Algorithms and experiments for structural mechanics on high performance architectures*, Comput. Meth. Appl. Mech. Engrg., 64, pp. 487–508.
- [155] M. BERRY AND A. SAMEH [1986]. *Multiprocessor Jacobi algorithms for dense symmetric eigenvalue and singular value decompositions*, Proc. 1986 Int. Conf. Par. Proc., pp. 433–440.
- [156] M. BERRY AND A. SAMEH [1987]. *A multiprocessor scheme for the singular value decomposition*, Tech. Report 690, Center for Supercomputing Research and Development, University of Illinois at Urbana-Champaign, August.
- [157] D. BERTSEKAS [1982]. *Distributed dynamic programming*, IEEE Trans. Automat. Control, AC-27, pp. 610–616.
- [158] D. BERTSEKAS [1983]. *Distributed asynchronous computation of fixed points*, Math. Programming, 27, pp. 107–120.
- [159] M. BERZINS, T. BUCKLEY, AND P. DEW [1984]. *Path Pascal simulation of multiprocessor lattice architectures for numerical computations*, in Paddon [1505], pp. 25–33.
- [160] M. BERZINS, T. BUCKLEY, AND P. DEW [1984]. *Systolic matrix iterative algorithms*, in Feilmeier et al. [623], pp. 483–488.
- [161] R. BEVILACQUA, B. CODENOTTI, AND F. ROMANI [1988]. *Parallel solution of block tridiagonal linear systems*, Lin. Alg. & Appl., 104, pp. 39–58.
- [162] V. BHAVSAR [1981]. *Some parallel algorithms for Monte Carlo solutions of partial differential equations*, Advances in Computer Methods for Partial Differential Equations, vol. 4, R. Vichnevetsky and R. Stepleman, eds., IMACS, New Brunswick, Canada, pp. 135–141.
- [163] V. BHAVSAR AND U. GUJAR [1984]. *VLSI algorithms for Monte Carlo solutions of partial*

- differential equations*, in Vichnevetsky and Stepleman [1908], pp. 268–276.
- [164] V. BHAVSAR AND J. ISAAC [1987]. *Design and analysis of parallel Monte Carlo algorithms*, SIAM J. Sci. Statist. Comput., 8, pp. s73–s95.
- [165] V. BHAVSAR AND V. KANETKAR [1977]. *A multiple microprocessor system (MMPS) for the Monte Carlo solution of partial differential equations*, Advances in Computer Methods for Partial Differential Equations, vol. 2, R. Vichnevetsky, ed., IMACS, New Brunswick, Canada, pp. 205–213.
- [166] V. BHAVSAR AND A. PADGAONKAR [1979]. *Effectiveness of some parallel computer architectures for Monte Carlo solution of partial differential equations*, Advances in Computer Methods for Partial Differential Equations, vol. 3, R. Vichnevetsky and R. Stepleman, eds., IMACS, New Brunswick, Canada, pp. 259–264.
- [167] V. BHAVSAR, T. TASSOU, E. HUSSEIN, AND K. GALLIVAN [1987]. *Monte Carlo neutron transport on the Alliant FX/8*, Proc. 1987 Int. Conf. Par. Proc., pp. 421–423.
- [168] S. BHUTT AND I. IPSEN [1985]. *How to embed trees in hypercubes*, Tech. Report YALEU/DCS/RR-443, Department of Computer Science, Yale University.
- [169] L. BHUYAN AND D. AGRAWAL [1984]. *Generalized hypercube and hyperbus structures for a computer network*, IEEE Trans. Comput., 33, pp. 323–333.
- [170] D. BINI [1984]. *Parallel solution of certain Toeplitz linear systems*, SIAM J. Comput., 13, pp. 368–476.
- [171] S. BIRINGEN [1983]. *A numerical simulation of transition in plane channel flow*, Paper 83-47, AIAA, Reno, NV, January.
- [172] S. BIRINGEN [1983]. *Simulation of late transition in plane channel flow*, Proceedings of the Third International Conference on Numerical Methods in Laminar and Turbulent Flow, Seattle WA, August.
- [173] G. BIRKHOFF AND A. SCHOENSTADT, eds. [1984]. *Elliptic Problem Solvers II*, Academic Press, Orlando.
- [174] L. BIRTA AND O. ABOU-RABIA [1987]. *Parallel block predictor-corrector methods for ODE's*, IEEE Trans. Comput., C-36, pp. 299–311.
- [175] C. BISCHOF [1986]. *A parallel ordering for the block Jacobi method on a hypercube architecture*, Tech. Report TR 96-740, Department of Computer Science, Cornell University.
- [176] C. BISCHOF [1987]. *The two-sided block Jacobi method on a hypercube*, in Heath [858], pp. 612–618.
- [177] C. BISCHOF AND C. VAN LOAN [1986]. *Computing the singular value decomposition on a ring of array processors*, Large Scale Eigenvalue Problems, J. Cullum and R. Willoughby, eds., North-Holland, Amsterdam.
- [178] C. BISCHOF AND C. VAN LOAN [1987]. *The WY representation for products of Householder matrices*, SIAM J. Sci. Statist. Comput., 8, pp. s2–s13.
- [179] P. BJØRSTAD [1987]. *A large scale, sparse, secondary storage, direct linear equation solver for structural analysis and its implementation on vector and parallel architectures*, Parallel Computing, 5, pp. 3–12.
- [180] P. BJØRSTAD AND A. HVIDSTEN [1988]. *Iterative methods for substructured elasticity problems in structural analysis*, in Glowinski et al. [761], pp. 301–312.
- [181] P. BJØRSTAD AND O. WIDLUND [1984]. *Solving elliptic problems on regions partitioned into substructures*, in Birkhoff and Schoenstadt [173], pp. 245–255.
- [182] P. BJØRSTAD AND O. WIDLUND [1986]. *Iterative methods for the solution of elliptic problems on regions partitioned into substructures*, SIAM J. Numer. Anal., 23, pp. 1097–1121.
- [183] E. BLUM [1982]. *Programming parallel numerical algorithms in Ada*, The Relationship between Numerical Computation and Programming Languages, J. K. Reid, ed., North-Holland, Amsterdam, pp. 297–304.
- [184] M. BLUMEMFELD [1984]. *Preconditioning conjugate gradient methods on vector computers*, in Feilmeier et al. [623], pp. 107–113.

- [185] A. BODE, G. FRITSCH, W. HÄNDLER, W. HENNING, F. HOFMANN, AND J. VOLKERT [1985]. *Multigrid oriented computer architecture*, Proc. 1985 Int. Conf. Par. Proc., pp. 89–95.
- [186] J. BOISSEAU, M. ENSELME, D. GUINRAUD, AND P. LEED [1982]. *Potential assessment of a parallel structure for the solution of partial differential equations*, Rech. Aerosp.
- [187] A. BOJANCZYK [1984]. *Optimal asynchronous Newton method for the solution of nonlinear equations*, J. ACM, 31, pp. 792–803.
- [188] A. BOJANCZYK AND R. BRENT [1985]. *Tridiagonalization of a symmetric matrix on a square array of mesh-connected processors*, J. Par. Dist. Comp., 2, pp. 261–276.
- [189] A. BOJANCZYK, R. BRENT, AND H. KUNG [1984]. *Numerically stable solution of dense systems of linear equations using mesh-connected processors*, SIAM J. Sci. Statist. Comput., 5, pp. 95–104.
- [190] S. BOKHARI [1979]. *On the mapping problem*, Proc. 1979 Int. Conf. Par. Proc., pp. 239–248.
- [191] S. BOKHARI [1981]. *On the mapping problem*, IEEE Trans. Comput., C-30, pp. 207–214.
- [192] S. BOKHARI [1984]. *Finding maximum on an array processor with a global bus*, IEEE Trans. Comput., C-33, pp. 133–139.
- [193] S. BOKHARI [1988]. *Partitioning problems in parallel, pipelined and distributed computing*, IEEE Trans. Comput., C-37, pp. 48–57.
- [194] S. BOKHARI, M. HUSSAINI, J. LAMBIOTTE, AND S. ORSZAG [1982]. *Navier-Stokes solution on the CYBER-203 by a pseudospectral technique*, Second IMAC International Symposium on Parallel Computation, Newark, DE, November 9–11, pp. 305–307.
- [195] S. BOKHARI, M. HUSSAINI, AND S. ORSZAG [1982]. *Fast orthogonal derivatives on the STAR*, Comput. Math. Appl., 8, pp. 367–377.
- [196] D. BOLEY [1978]. *Vectorization of block relaxation techniques: Some numerical experiments*, Proc. 1978 LASL Workshop on Vector and Parallel Processors, Los Alamos, NM.
- [197] D. BOLEY [1984]. *A parallel method for the generalized eigenvalue problem*, Tech. Report 84-21, Department of Computer Science, University of Minnesota, September.
- [198] D. BOLEY [1986]. *Solving the generalized eigenvalue problem on a synchronous linear processor array*, Parallel Computing, 3, pp. 153–166.
- [199] D. BOLEY, B. BUZBEE, AND S. PARTER [1978]. *On block relaxation techniques*, Tech. Report 1860, Mathematics Research Center, University of Wisconsin.
- [200] E. BONDARENKO [1985]. *Parallelizing of methods for the modification of matrix factorizations*, Computational Processes and Systems, Izdatel'stvo Nauka, Moscow, pp. 228–264.
- [201] L. BONEY AND R. SMITH [1979]. *A vectorization of the Hess-McDonnel-Douglas potential flow program NUED for the STAR-100 computer*, NASA Tech. Report TM-78816, NASA Langley Research Center.
- [202] J. BONOMO AND W. DYKSEN [1987]. *Pipelined iterative methods for shared memory machines*, Tech. Report CSD-TR-688, Department of Computer Science, Purdue University.
- [203] D. BOOK, ed. [1981]. *Finite Difference Techniques for Vectorized Fluid Dynamics Calculation*, Springer-Verlag, New York, NY.
- [204] C. BORGERS AND O. WIDLAND [1987]. *A domain decomposition Laplace solver for internal combustion engine modeling*, Tech. Report 315, Department of Computer Science, New York University.
- [205] J. BORIS [1976]. *Flux-corrected transport modules for solving generalized continuity equations*, Tech. Report 3237, Naval Research Laboratory.
- [206] J. BORIS [1976]. *Vectorized tridiagonal solvers*, Tech. Report 3048, Naval Research Laboratory.
- [207] J. BORIS [1986]. *A vectorized “near neighbors” algorithm of order n using a monotonic logical grid*, J. Comp. Phys., 66, pp. 1–22.
- [208] J. BORIS AND N. WINSOR [1982]. *Vectorized computation of reactive flow*, in Rodrigue [1636], pp. 173–215.
- [209] A. BORODIN AND I. MUNRO [1975], *Computational Complexity of Algebraic and Numeric Processes*, American Elsevier.

- [210] A. BOSSAVIT [1982]. *On the vectorization of algorithms in linear algebra*, Proc. 10th IMACS World Congress on Systems Simulation and Scientific Computation, vol. 1, IMACS, pp. 95–97.
- [211] S. BOSTIC [1984]. *Solution of a tridiagonal system of equations on the Finite Element Machine*, NASA Tech. Report TM-85710, NASA Langley Research Center.
- [212] S. BOSTIC AND R. FULTON [1985]. *A concurrent processing approach to structural vibration analysis*, 26th AIAA Structures, Structural Dynamics and Materials Conf., Orlando, FL.
- [213] S. BOSTIC AND R. FULTON [1987]. *Implementation of the Lanczos method for structural vibration analysis on a parallel computer*, Computers and Structures, 25, pp. 395–404.
- [214] A. BOUDOUVIS AND L. SCRIVEN [1985]. *Explicitly vectorized frontal routine for hydrodynamic stability and bifurcation analysis by Galerkin/finite element methods*, in Numrich [1462], pp. 197–213.
- [215] W. BOUKNIGHT, S. DENENBERG, D. MCINTYRE, J. RANDALL, A. SAMEH, AND D. SLOTNICK [1972]. *The Illiac IV system*, Proc. IEEE, 60, pp. 369–379.
- [216] B. BOWEN AND R. BUHR [1980]. *The Logical Design of Multiple-Microprocessor Systems*, Prentice-Hall, Inc., Englewood Cliffs, NJ.
- [217] G. BOWGEN AND J. MODI [1985]. *Implementation of QR factorization on the DAP using Householder transformations*, Comput. Phys. Comm., 37, pp. 167–170.
- [218] K. BOWLER AND G. PAWLEY [1984]. *Molecular dynamics and Monte Carlo simulations in solid-state and elementary particle physics*, Proc. IEEE, 72, pp. 42–55.
- [219] P. BRADLEY, D. DWYER, AND J. SOUTH [1984]. *Vectorized schemes for conical flow using the artificial density method*, Paper 84-0162, AIAA, January.
- [220] P. BRADLEY, P. SIEMERS, AND K. WEILMUENSTER [1982]. *Comparison of shuttle flight pressure data to computational and wind-tunnel results*, Journal of Spacecraft and Rockets, 19, pp. 419–422.
- [221] I. BRAILOVSKAYA [1965]. *A difference scheme for numerical solution of the two-dimensional non-stationary Navier-Stokes equations for a compressible gas*, Soviet Physics Doklady, 10, pp. 107–110.
- [222] J. BRAMBLE, J. PASCIAK, AND A. SCHATZ [1987]. *The construction of preconditioners for elliptic problems by substructuring*, Math. Comp., 49(179), pp. 1–16.
- [223] J. BRANDENBURG AND D. SCOTT [1986]. *Embeddings of communication trees and grids into hypercubes*, iPSC Tech. Report 1, Intel.
- [224] A. BRANDT [1977]. *Multigrid adaptive solutions to boundary value problems*, Math. Comp., 31, pp. 333–390.
- [225] A. BRANDT [1981]. *Multigrid solvers on parallel computers*, in Schultz [1742], pp. 39–83.
- [226] A. BRANDT [1984]. *Local and multi-level parallel processing mill*, Tech. Report, Department of Applied Mathematics, Weizmann Institute, Rehovot, Israel.
- [227] A. BRANDT [1988]. *Multilevel computations: Review and recent developments*, in McCormick [1306], pp. 35–63.
- [228] W. BRANTLEY, K. McAULIFFE, AND J. WEISS [1985]. *RP3 processor memory element*, Proc. 1985 Int. Conf. Par. Proc., pp. 782–789.
- [229] A. BRASS AND G. PARLEY [1986]. *Two and three dimensional FFTs on highly parallel computers*, Parallel Computing, 3, pp. 167–184.
- [230] R. BRENT AND H. KUNG [1982]. *A systolic VLSI array for integer GCD computation*, Tech. Report TR-CS-82-11, Department of Computer Science, Australian National University, December.
- [231] R. BRENT, H. KUNG, AND F. LUK [1983]. *Some linear-time algorithms for systolic arrays*, Proc. IFIP 9th World Computer Congress, Amsterdam, North-Holland, pp. 865–876.
- [232] R. BRENT AND F. LUK [1982]. *Computing the Cholesky factorization using a systolic architecture*, Tech. Report TR 82-521, Department of Computer Science, Cornell University, Ithaca, NY, September.

- [233] R. BRENT AND F. LUK [1982]. *A systolic architecture for almost linear-time solution of the symmetric eigenvalue problem*, Tech. Report TR-CS-82-10, Department of Computer Science, Australian National University.
- [234] R. BRENT AND F. LUK [1982]. *A systolic architecture for the singular value decomposition*, Tech. Report TR-82-522, Department of Computer Science, Cornell University.
- [235] R. BRENT AND F. LUK [1983]. *Computing the Cholesky factorization using a systolic architecture*, Proc. 6th Australian Computer Science Conf., Australian Computer Science Communications 5, pp. 295–302.
- [236] R. BRENT AND F. LUK [1983]. *A systolic array for the linear time solution of Toeplitz systems of equations*, J. of VLSI and Computer Systems, 1, pp. 1–22.
- [237] R. BRENT AND F. LUK [1985]. *The solution of singular-value and symmetric eigenvalue problems on multiprocessors*, SIAM J. Sci. Statist. Comput., 6, pp. 69–84.
- [238] R. BRENT, F. LUK, AND C. VAN LOAN [1983]. *Computation of the generalized singular value decomposition using mesh-connected processors*, Proc. SPIE vol. 431: Real Time Signal Processing VI.
- [239] R. BRENT, F. LUK, AND C. VAN LOAN [1985]. *Computation of the singular value decomposition using mesh connected processors*, J. of VLSI and Computer Systems, 1, pp. 242–270.
- [240] R. BRICKNER, R. HIROMOTO, AND B. WIENKE [1987]. *Parallel iterative transport algorithms and comparative performance on distributed and common memory systems*, Tech. Report LA-UR-87-2163, Los Alamos National Laboratory.
- [241] R. BRICKNER AND R. PATERNOSTER [1987]. *Multitasking a two-dimensional (R,Z)-geometry discrete ordinates neutron transport algorithm*, Tech. Report LA-UR-87-2164, Los Alamos National Laboratory.
- [242] W. BRIGGS, L. HART, S. MCCORMICK, AND D. QUINLAN [1987]. *Multigrid methods on a hypercube*, in McCormick [1306], pp. 63–83.
- [243] W. BRIGGS, L. HART, R. SWEET, AND A. O'GALLAGHER [1987]. *Multiprocessor FFT methods*, SIAM J. Sci. Statist. Comput., 8, pp. s27–s42.
- [244] W. BRIGGS AND T. TURNBULL [1988]. *Fast Poisson solvers for MIMD computers*, Parallel Computing, 6, pp. 265–275.
- [245] P. BRINCH HANSEN [1973]. *Concurrent programming concepts*, ACM Computing Surveys, 6, pp. 223–245.
- [246] P. BRINCH HANSEN [1977]. *The Architecture of Concurrent Programs*, Prentice-Hall, Inc., Englewood Cliffs, NJ.
- [247] P. BRINCH HANSEN [1978]. *Distributed processes: A concurrent programming concept*, Comm. ACM, 21.
- [248] P. BRINCH HANSEN [1979]. *A keynote address on concurrent programming*, Computer, 12(5), pp. 50–56.
- [249] L. BROCHARD [1984]. *Communication and control costs of domain decomposition on loosely coupled multiprocessors*, Proc. 7th Int. Conf. Dist. Comp. Syst., Berlin, pp. 200–205.
- [250] B. BRODE [1981]. *Precompilation of Fortran programs to facilitate array processing*, Computer, 14(9), pp. 46–51.
- [251] E. BROOKS [1984]. *A multitasking kernel for the C and Fortran programming languages*, Tech. Report UCID-20167, Lawrence Livermore National Laboratory, Livermore, CA, September.
- [252] E. BROOKS [1985]. *Performance of the Butterfly processor-memory interconnection in a vector environment*, Proc. 1985 Int. Conf. Par. Proc., pp. 21–24.
- [253] E. BROOKS [1985]. *The shared memory hypercube*, Tech. Report, Lawrence Livermore National Laboratory, Livermore, CA, March.
- [254] E. BROOKS [1987]. *A butterfly processor-memory interconnection for a vector processing environment*, Parallel Computing, 4, pp. 103–110.
- [255] E. BROOKS [1988]. *The indirect k-ary n-cube for a vector processing environment*, Parallel

- Computing, 6, pp. 339–348.
- [256] E. BROOKS [1988]. *The shared memory hypercube*, Parallel Computing, 6, pp. 235–246.
 - [257] G. BROOME AND J. HEATH [1983]. *Classification categories and historical development of circuit switching topologies*, ACM Computing Surveys, 15, pp. 95–134.
 - [258] J. BROWNE [1984]. *Parallel architecture for computer systems*, Physics Today, 37(5), pp. 28–35.
 - [259] J. BROWNE [1984]. *TRAC: An environment for parallel computing*, Proc. COMPCON 84, IEEE Comp. Soc. Conf., pp. 294–299.
 - [260] J. BROWNE [1985]. *Formulation and programming of parallel computations: A unified approach*, Proc. 1985 Int. Conf. Par. Proc., pp. 624–631.
 - [261] J. BROWNE [1986]. *Framework for formulation and analysis of parallel computation structures*, Parallel Computing, 3, pp. 1–10.
 - [262] R. BRU, M. NEUMANN, AND L. ELSNER [1988]. *Models of parallel chaotic iteration methods*, Lin. Alg. & Appl., 103, pp. 175–192.
 - [263] J. BRUNO [1984]. *Final report on the feasibility of using the Massively Parallel Processor for large eddy simulations and other computational fluid dynamics applications*, Tech. Report 84.2, RIACS, NASA Ames Research Center, June.
 - [264] J. BRUNO [1986]. *Report on the feasibility of hypercube concurrent processing systems in computational fluid dynamics*, Tech. Report 86.7, RIACS, NASA Ames Research Center, March.
 - [265] I. BUCHER [1983]. *The computational speed of supercomputers*, Proc. ACM Sigmetrics Conf. on Measurement and Modeling of Computer Systems, pp. 151–165.
 - [266] I. BUCHER AND T. JORDAN [1984]. *Linear algebra programs for use on a vector computer with a secondary solid state storage device*, in Vichnevetsky and Stepleman [1980], pp. 546–550.
 - [267] I. BUCHER AND T. JORDAN [1984]. *Solving very large elliptic problems on a supercomputer with solid state disk*, J. Comp. Phys., 55, pp. 340–345.
 - [268] P. BUDNIK AND D. KUCK [1971]. *The organization and use of parallel memories*, IEEE Trans. Comput., C-20, pp. 1566–1569.
 - [269] O. BUNEMAN [1969]. *A compact non-iterative Poisson solver*, Tech. Report 294, Institute for Plasma Research, Stanford University.
 - [270] P. BUNING AND J. LEVY [1979]. *Vectorization of implicit Navier-Stokes codes on the CRAY-1 computer*, Tech. Report, Department of Aeronautics and Astronautics, Stanford University.
 - [271] P. BURKE, B. DAVIES, AND D. EDWARDS, eds. [1982]. *Some Research Applications on the CRAY-1 Computer at the Daresbury Laboratory, 1979-81*, Daresbury Laboratory, England.
 - [272] P. BURKE AND L. DELNES, eds. [1982]. *Proceedings of the International Conference on Vector and Parallel Processors in Computational Science, Chester, England, August, 1981*.
 - [273] P. BURNS AND D. PRYOR [1987]. *Vectorized Monte Carlo radiative heat transfer simulation of the laser isotope separation process*, Tech. Report 87002, Institute for Scientific Computing, Fort Collins, CO.
 - [274] BURROUGHS CORP. [1979]. *Final report. NAS facility feasibility study*, Contractor Report NAS2-9897, NASA.
 - [275] R. BUTLER, E. LUSK, W. McCUNE, AND R. OVERBEEK [1985]. *Parallel logic programming for numeric applications*, MCS Tech. Report, Argonne National Laboratory, Argonne, IL.
 - [276] T. BUTLER, J. CLOUTMAN, AND J. RAMSHAW [1981]. *Multidimensional numerical simulation of reactive flow in internal combustion engines*, Prog. Energy Combust. Sci., 7, pp. 293–315.
 - [277] B. BUZBEE [1973]. *A fast Poisson solver amenable to parallel computation*, IEEE Trans. Comput., C-22, pp. 793–796.
 - [278] B. BUZBEE [1981]. *Implementing techniques for elliptic problems on vector processors*, in Schultz [1982], pp. 85–98.

- [279] B. BUZBEE [1983]. *Remarks for the IFIP congress '83 panel on how to obtain high performance for high-speed processors*, Tech. Report LA-UR-83-1392, Los Alamos National Laboratory.
- [280] B. BUZBEE [1983]. *Vectorization of algorithms for solving systems of elliptic difference equations*, in Noor [1443], pp. 81–88.
- [281] B. BUZBEE [1984]. *Application of MIMD machines*, Tech. Report LA-UR-84-2004, Los Alamos National Laboratory.
- [282] B. BUZBEE [1984]. *Gaining insight from supercomputing*, Proc. IEEE, 72, pp. 19–21.
- [283] B. BUZBEE [1985]. *Two parallel formulations of particle-in-cell models*, in Snyder et al. [1798], pp. 223–232.
- [284] B. BUZBEE [1986]. *A strategy for vectorization*, Parallel Computing, 3, pp. 187–192.
- [285] B. BUZBEE, D. BOLEY, AND S. PARTER [1979]. *Applications of block relaxation*, Proc. 1979 AIME Fifth Symposium on Reservoir Simulation.
- [286] B. BUZBEE, R. EWALD, AND J. WORLTON [1982]. *Japanese supercomputer technology*, Science, 218(17), pp. 1189–93.
- [287] B. BUZBEE, G. GOLUB, AND J. HOWELL [1977]. *Vectorizations for the CRAY-1 of some methods for solving elliptic difference equations*, in Kuck et al. [1128], pp. 255–271.
- [288] B. BUZBEE, G. GOLUB, AND C. NIELSON [1970]. *On direct methods for solving Poisson's equation*, SIAM J. Numer. Anal., 7, pp. 627–656.
- [289] B. BUZBEE AND J. MORRISON, eds. [1978]. *Proc. 1978 LASL Workshop on Vector and Parallel Processors*, Los Alamos, NM.
- [290] B. BUZBEE AND D. SHARP [1985]. *Perspectives on computing*, Science, 227, pp. 591–597.
- [291] B. BUZBEE, J. WORLTON, G. MICHAEL, AND G. RODRIGUE [1980]. *DOE research in utilization of high performance systems*, Tech. Report LA-8609-MS, Los Alamos National Laboratory.
- [292] J. CAHOUET [1988]. *On some difficulties occurring in the simulation of incompressible fluid flows by domain decomposition methods*, in Glowinski et al. [761], pp. 313–332.
- [293] D. CALAHAN [1973]. *Parallel solution of sparse simultaneous linear equations*, Proceedings of the 11th Allerton Conference on Circuit and System Theory, University of Illinois at Urbana-Champaign, pp. 729–738.
- [294] D. CALAHAN [1975]. *Complexity of vectorized solution of two-dimensional finite element grids*, Tech. Report 91, Systems Engineering Laboratory, University of Michigan.
- [295] D. CALAHAN [1977]. *Algorithmic and architectural issues related to vector processors*, Proc. Int. Symp. Large Eng. Sys., Pergamon Press.
- [296] D. CALAHAN [1979]. *A block-oriented sparse equation solver for the CRAY-1*, Proc. 1979 Int. Conf. Par. Proc., pp. 116–123.
- [297] D. CALAHAN [1979]. *Vectorized sparse elimination*, Proc. Sci. Computer Information Exchange Meeting, Livermore, CA.
- [298] D. CALAHAN [1980]. *Multi-level vectorized sparse solution of LSI circuits*, Proc. IEEE Conf. on Circuits and Computers, Rye, NY, October, pp. 976–979.
- [299] D. CALAHAN [1981]. *Direct solution of linear equations on the CRAY-1*, CRAY Channels, 3, pp. 1–5.
- [300] D. CALAHAN [1981]. *Performance of linear algebra codes on the CRAY-1*, SPE Journal, pp. 558–564.
- [301] D. CALAHAN [1981]. *Sparse vectorized direct solution of elliptic problems*, in Schultz [1742], pp. 241–245.
- [302] D. CALAHAN [1982]. *High performance banded and profile equation-solvers for the CRAY-1: The unsymmetric case*, Tech. Report 160, Systems Engineering Laboratory, University of Michigan.
- [303] D. CALAHAN [1982]. *Vectorized direct solvers of 2-D grids*, Proc. 6th Symp. Reservoir Simulation, pp. 489–506.
- [304] D. CALAHAN [1983]. *Tasking studies in solving a linear algebra problem on a CRAY-class*

- multiprocessor*, Tech. Report SARL-2, Supercomputer Algorithm Research Laboratory, University of Michigan.
- [305] D. CALAHAN [1984]. *Influence of task granularity on vector multiprocessor performance*, Proc. 1984 Int. Conf. Par. Proc., pp. 278–284.
 - [306] D. CALAHAN [1985]. *Task granularity studies on a many-processor CRAY X-MP*, Parallel Computing, 2, pp. 109–118.
 - [307] D. CALAHAN [1986]. *Block-oriented, local-memory-based linear equation solution on the CRAY-2: Uniprocessor algorithms*, Proc. 1986 Int. Conf. Par. Proc., pp. 375–378.
 - [308] D. CALAHAN AND W. AMES [1979]. *Vector processors: Models and applications*, IEEE Trans. Circuits and Syst., CAS-26, pp. 715–776.
 - [309] D. CALAHAN, W. AMES, AND E. SESEK [1979]. *A collection of equation solving codes for the CRAY-1*, Tech. Report, Systems Engineering Laboratory, University of Michigan.
 - [310] D. CALAHAN, W. JOY, AND P. ORBITS [1976]. *Preliminary report on results of matrix benchmarks on vector processors*, Tech. Report, Systems Engineering Laboratory, University of Michigan.
 - [311] P. CAPPELLO [1985]. *A mesh automaton for solving dense linear systems*, Proc. 1985 Int. Conf. Par. Proc., pp. 418–425.
 - [312] P. CAPPELLO [1987]. *Gaussian elimination on a hypercube automaton*, J. Par. Dist. Comp., 4, pp. 288–308.
 - [313] C. CARDELMO AND P.-Y. CHEN [1985]. *A new parallel algorithm for solving a complex function $f(z) = 0$* , Proc. 1985 Int. Conf. Par. Proc., pp. 305–310.
 - [314] G. CAREY [1981]. *High speed processors and implications for algorithms and methods*, Non-linear Finite Element Analysis — Structural Mechanics, W. Wunderlich, E. Stein, and K. Bathe, eds., Springer-Verlag, Berlin.
 - [315] G. CAREY [1985]. *Inherent and induced parallelism in finite element computations*, Tech. Report CNA-198, Center for Numerical Analysis, University of Texas at Austin, February.
 - [316] G. CAREY [1986]. *Parallelism in finite element modeling*, Comm. Appl. Numer. Meth., 2, pp. 281–287.
 - [317] G. CAREY, E. BARRAGY, R. McLAY, AND M. SHARMA [1988]. *Element by element vector and parallel computations*, Comm. Appl. Numer. Meth., 4, pp. 299–308.
 - [318] W. CARLSON AND K. HWANG [1985]. *Algorithmic performance of dataflow multiprocessors*, Computer, 18(12), pp. 30–40.
 - [319] A. CARROLL AND R. WETHERALD [1967]. *Application of parallel processing to numerical weather prediction*, J. ACM, 14, pp. 591–614.
 - [320] D. CASASENT [1984]. *Acoustooptic linear algebra processors — Architectures, algorithms and applications*, Proc. IEEE, 72, pp. 831–849.
 - [321] C. CATHERASOO [1987]. *The vortex method on a hypercube concurrent processor*, in Heath [858], pp. 756–761.
 - [322] D. CAUGHEY [1983]. *Multigrid calculation of three-dimensional transonic potential flows*, Appl. Math. & Comp., 13(3-4), pp. 241–260. (Special Issue, Proceedings of the First Copper Mountain Conference on Multigrid Methods, Copper Mountain, CO, S. McCormick and U. Trottenberg, eds.).
 - [323] D. CAUGHEY, P. NEWMAN, AND A. JAMESON [1978]. *Recent experiences with three dimensional transonic potential flow calculations*, NASA Tech. Report TM-78733, NASA Langley Research Center.
 - [324] R. CHAMBERLAIN [1986]. *Experiences with the Intel iPSC hypercube*, Supercomputer, 16, pp. 24–29.
 - [325] R. CHAMBERLAIN [1987]. *An alternative view of LU factorization with partial pivoting on a hypercube multiprocessor*, in Heath [858], pp. 569–575.
 - [326] R. CHAMBERLAIN [1988]. *Gray codes, fast Fourier transforms, and hypercubes*, Parallel Computing, 6, pp. 225–234.

- [327] R. CHAMBERLAIN, P. FREDERICKSON, J. LINDHEIM, AND J. PETERSEN [1987]. *A high level library for hypercubes*, in Heath [858], pp. 651–655.
- [328] R. CHAMBERLAIN AND M. POWELL [1986]. *QR factorization for linear least squares problems on the hypercube*, Tech. Report CCS 86/10, Department of Science and Technology, Chr. Michelsen Institute, Bergen, Norway.
- [329] T. CHAN [1987]. *Analysis of preconditioners for domain decomposition*, SIAM J. Numer. Anal., 27, pp. 382–390.
- [330] T. CHAN [1987]. *On the implementation of kernel numerical algorithms for computational fluid dynamics on hypercubes*, in Heath [858], pp. 747–755.
- [331] T. CHAN AND T. HOU [1988]. *Domain decomposition preconditioners for general second order elliptic problems*, CAM Report 88-16, Department of Mathematics, UCLA.
- [332] T. CHAN AND D. RESASCO [1987]. *A domain-decomposed fast Poisson solver on a rectangle*, SIAM J. Sci. Statist. Comput., 8, pp. s14–s26.
- [333] T. CHAN AND D. RESASCO [1987]. *Hypocube implementation of domain decomposed fast Poisson solvers*, in Heath [858], pp. 738–746.
- [334] T. CHAN AND D. RESASCO [1988]. *A framework for the analysis and construction of domain decomposition preconditioners*, in Glowinski et al. [761], pp. 217–230.
- [335] T. CHAN AND Y. SAAD [1985]. *Multigrid algorithms on the hypercube multiprocessor*, Tech. Report YALEU/DCS/RR-368, Department of Computer Science, Yale University, New Haven, CT, February.
- [336] T. CHAN AND Y. SAAD [1986]. *Multigrid algorithms on the hypercube multiprocesor*, IEEE Trans. Comput., C-35, pp. 969–977.
- [337] T. CHAN, Y. SAAD, AND M. SCHULTZ [1985]. *Solving elliptic partial differential equations on the hypercube multiprocessor*, Tech. Report YALEU/DCS/RR-373, Department of Computer Science, Yale University, March.
- [338] T. CHAN, Y. SAAD, AND M. SCHULTZ [1987]. *Solving elliptic partial differential equations on the hypercube multiprocessor*, Comm. Appl. Numer. Meth., 3, pp. 81–88.
- [339] T. CHAN AND R. SCHREIBER [1985]. *Multigrid algorithms on the hypercube multiprocessor*, Tech. Report 368, Department of Computer Science, Yale University.
- [340] T. CHAN AND R. SCHREIBER [1985]. *Parallel networks for multigrid algorithms: Architecture and complexity*, SIAM J. Sci. Statist. Comput., 6, pp. 698–711.
- [341] T. CHAN AND R. TUMINARO [1987]. *Implementation of multigrid algorithms on hypercubes*, in Heath [858], pp. 730–737.
- [342] T. CHAN AND R. TUMINARO [1988]. *Design and implementation of parallel multigrid algorithms*, in McCormick [1306], pp. 101–115.
- [343] T. CHAN AND R. TUMINARO [1988]. *Implementation and evaluation of multigrid algorithms on hybercubes*, in McCormick [1306].
- [344] T. CHAN AND R. TUMINARO [1988]. *A survey of parallel multigrid algorithms*, CAM Report 87-16, Department of Mathematics, UCLA.
- [345] R. CHANDRA [1978]. *Conjugate Gradient Methods for Partial Differential Equations*, PhD dissertation, Yale University, Department of Computer Science.
- [346] H. CHANG, S. UTKU, M. SALAMA, AND D. RAPP [1988]. *A parallel Householder tridiagonalization strategem using scattered square decomposition*, Parallel Computing, 6, pp. 297–312.
- [347] H. CHANG, S. UTKU, M. SALAMA, AND D. RAPP [1988]. *A parallel Householder tridiagonalization strategem using scattered row decomposition*, I. J. Num. Meth. Eng., 26, pp. 857–874.
- [348] S. CHANG [1982]. *Borehole acoustic simulation on vector computers*, in Control Data Corporation [411].
- [349] D. CHAPMAN [1979]. *Computational aerodynamics development and outlook*, 17th Aerospace Sciences Meeting. AIAA paper 79-0129.

- [350] A. CHARLESWORTH AND J. GUSTAFSON [1986]. *Introducing replicated VLSI to supercomputing: The FPS-164/MAX scientific computer*, Computer, 19(3), pp. 10–23.
- [351] Y. CHAUVET [1984]. *Multitasking a vectorized Monte Carlo algorithm on the CRAY X-MP/2*, CRAY Channels, 6(3), pp. 6–9.
- [352] D. CHAZAN AND W. MIRANKER [1969]. *Chaotic relaxation*, Lin. Alg. & Appl., 2, pp. 199–222.
- [353] D. CHAZAN AND W. MIRANKER [1970]. *A non-gradient and parallel algorithm for unconstrained minimization*, SIAM J. Control, 8, pp. 207–217.
- [354] A. CHEN AND C. WU [1984]. *Optimum solution to dense linear systems of equations*, Proc. 1984 Int. Conf. Par. Proc., pp. 417–424.
- [355] K. CHEN AND K. IRANI [1980]. *A Jacobi algorithm and its implementation on parallel computers*, Proc. 18th Allerton Conf. on Comm., Cont. and Comp., pp. 564–573.
- [356] M. CHEN [1983]. *Space-time Algorithms: Semantics and Methodology*, PhD dissertation, California Institute of Technology.
- [357] M. CHEN [1986]. *A design methodology for synthesizing parallel algorithms and architectures*, J. Par. Dist. Comp., 3, pp. 461–491.
- [358] M.-Q. CHEN AND S.-P. HAN [1987]. *A parallel quasi-Newton method for partially separable large scale minimization*, Tech. Report 689, Center for Supercomputing Research and Development, University of Illinois at Urbana-Champaign.
- [359] M.-S. CHEN AND K. SHIN [1987]. *Processor allocation in an n-cube multiprocessor using Gray codes*, IEEE Trans. Comput., C-36, pp. 1396–1407.
- [360] S. CHEN [1975]. *Speedup of Iterative Programs in Multi-Processing Systems*, PhD dissertation, University of Illinois at Urbana-Champaign, Department of Computer Science.
- [361] S. CHEN [1982]. *Polynomial Scaling in the Conjugate Gradient Method and Related Topics in Matrix Scaling*, PhD dissertation, Pennsylvania State University, Department of Computer Science.
- [362] S. CHEN [1984]. *Large-scale and high-speed multiprocessor system for scientific applications: CRAY X-MP-2 series*, in Kowalik [1111], pp. 59–67.
- [363] S. CHEN, J. DONGARRA, AND C. HSUING [1984]. *Multiprocessing linear algebra algorithms on the CRAY X-MP-2: Experiences with small granularity*, J. Par. Dist. Comp., 1, pp. 22–31.
- [364] S. CHEN AND D. KUCK [1975]. *Time and parallel processor bounds for linear recurrence systems*, IEEE Trans. Comput., C-24, pp. 101–117.
- [365] S. CHEN, D. KUCK, AND A. SAMEH [1978]. *Practical parallel band triangular system solvers*, ACM Trans. Math. Softw., 4, pp. 270–77.
- [366] S. CHEN AND A. SAMEH [1975]. *On parallel triangular solvers*, Proc. 1975 Sagamore Conf. Par. Proc., pp. 237–38.
- [367] K. CHENG AND S. SAHNI [1987]. *VLSI systems for band matrix multiplication*, Parallel Computing, 4, pp. 239–258.
- [368] T. CHENG AND O. JOHNSON [1982]. *3D vector forward modeling*, Seismics Acous. Lab. 5th year Prog. Rev., 10, pp. 210–228.
- [369] H. CHEONG AND A. VEIDENBAUM [1987]. *The performance of software managed multiprocessor cache on parallel numerical algorithms*, Proc. Int. Conf. on Supercomputing, Athens, Springer-Verlag, June.
- [370] M. CHERN AND T. MURATA [1983]. *Efficient matrix multiplication on a concurrent data-loading array processor*, Proc. 1983 Int. Conf. Par. Proc., pp. 90–94.
- [371] M. CHERN AND T. MURATA [1983]. *A fast algorithm for concurrent LU decomposition and matrix inversion*, Proc. 1983 Int. Conf. Par. Proc., pp. 79–86.
- [372] G. CHERRY [1984]. *Parallel programming in ANSI standard Ada*. Reston.
- [373] T. CHEUNG AND J. SMITH [1986]. *A simulation study of the CRAY X-MP memory system*, IEEE Trans. Comput., C-35, pp. 613–622.
- [374] R. CHIMA AND G. JOHNSON [1983]. *Efficient solution of the Euler and Navier-Stokes equa-*

- tions with a vectorized multiple-grid algorithm*, Paper 83-1893, AIAA.
- [375] R. CHIN, G. HEDSTROM, F. HOWES, AND J. McGRAW [1986]. *Parallel computation of multiple-scale problems*, in Wouk [1987], pp. 136–153.
- [376] R. CHIN, G. HEDSTROM, F. HOWES, AND J. McGRAW [1986]. *Parallel computation of multiple-scale problems*, New Computing Environments: Parallel, Vector, and Systolic, Philadelphia, pp. 136–153.
- [377] R. CHIN, G. HEDSTROM, J. SCROGGS, AND D. SORENSEN [1987]. *Parallel computation of a domain decomposition method*, Tech. Report 657, Center for Supercomputing Research and Development, University of Illinois at Urbana-Champaign, April.
- [378] R. CHIN, G. HEDSTROM, AND C. SIEWERT [1986]. *On the use of the FN method for radiative transfer problems*, Tech. Report UCRL-94464, Lawrence Livermore National Laboratory.
- [379] Y. CHOW AND W. KOHLER [1979]. *Models for dynamic load balancing in a heterogeneous multiple processor system*, IEEE Trans. Comput., C-28, pp. 354–.
- [380] N. CHRIST AND A. TERRANO [1984]. *A very fast parallel processor*, IEEE Trans. Comput., 33, pp. 344–350.
- [381] C. CHRISTARA [1988]. *Parallel Algorithms/Architectures for the Solution of Elliptic Partial Differential Equations*, PhD dissertation, Purdue University.
- [382] C. CHRISTARA, E. HOUSTIS, AND J. RICE [1988]. *A parallel spline collocation-capacitance method for elliptic partial differential equations*, Tech. Report CSD-TR-735, Department of Computer Science, Purdue University.
- [383] A. CHRONOPOULOS AND C. GEAR [1987]. *Implementation of preconditioned S-step conjugate gradient methods on a multi processor system with memory hierarchy*, Tech. Report 1346, Department of Computer Science, University of Illinois at Urbana-Champaign.
- [384] E. CHU [1988]. *Orthogonal Decomposition of Dense and Sparse Matrices on Multiprocessors*, PhD dissertation, University of Waterloo.
- [385] E. CHU AND A. GEORGE [1987]. *Gaussian elimination with partial pivoting and load balancing on a multiprocessor*, Parallel Computing, 5, pp. 65–74.
- [386] E. CHU AND A. GEORGE [1987]. *QR factorization of a dense matrix on a shared memory multiprocessor*, Tech. Report ORNL/TM-10581, Oak Ridge National Laboratory, October.
- [387] E. CHU AND A. GEORGE [1988]. *QR factorization of a dense matrix on a hypercube multiprocessor*, Tech. Report ORNL/TM-10691, Oak Ridge National Laboratory.
- [388] M. CHU AND H. HAMILTON [1987]. *Parallel solution of ODE's by multiblock methods*, SIAM J. Sci. Statist. Comput., 8, pp. 342–353.
- [389] H. CHUANG AND L. CHEN [1987]. *A fixed size systolic array for arbitrarily large eigenvalue problems*, Proc. 1987 Int. Conf. Par. Proc., pp. 550–556.
- [390] J. CHUN, T. KAILATH, AND H. LEV-ARI [1987]. *Fast parallel algorithms for QR and triangular factorization*, SIAM J. Sci. Statist. Comput., 8, pp. 899–913.
- [391] J. CLAUSING, R. HAGSTROM, E. LUSK, AND R. OVERBEEK [1985]. *A technique for achieving portability among multiprocessors: Implementation on the Lemur*, Parallel Computing, 2, pp. 137–162.
- [392] A. CLEARY, D. HARRAR, AND J. ORTEGA [1986]. *Gaussian elimination and Choleski factorization on the FLEX/32*, Tech. Report RM-86-13, Department of Applied Mathematics, The University of Virginia, December.
- [393] A. CLEARY, E. POOLE, J. ORTEGA, O. STORAASLI, AND C. VAUGHAN [1988]. *Solution of structural analysis problems on a parallel computer*, Proceedings of the 29th AIAA Structures, Structural Dynamics and Materials Conference, pp. 596–605.
- [394] T. CLEMANS-AUGUST AND U. TROTTERBERG [1988]. *A short note on standard parallel multigrid algorithms for 3D*, Appl. Math. & Comp., 27, pp. 101–116.
- [395] E. CLEMENTI, J. DETRICH, S. CHIN, G. CORONGIU, D. FOLSOM, D. LOGAN, R. CALTABIANO, A. CARNEVALI, J. HELIN, M. RUSSO, A. GNUDI, AND P. PALAMIDESE [1987]. *Large-scale computations on a scalar, vector and parallel “supercomputer”*, Parallel Com-

- puting, 5, pp. 13-44.
- [396] J. CLINARD AND A. GEIST [1987]. *Implementing fracture mechanics analysis on a distributed-memory parallel processor*, Tech. Report ORNL/TM-10367, Oak Ridge National Laboratory, March.
- [397] M. CLINT, C. HOLT, R. PERROTT, AND A. STEWART [1984]. *Algorithms for the parallel computation of eigensystems*, in Feilmeier et al. [623], pp. 123-130.
- [398] C. CLOS [1953]. *A study of non-blocking switching networks*, Bell System Tech. J., 32, pp. 406-424.
- [399] D. COCHRANE AND D. TRUHLAR [1986]. *Strategies and performance norms for efficient utilization of vector pipeline computers as illustrated by the classical mechanical simulation of rotationally inelastic collisions*, Tech. Report 86-4, University of Minnesota Supercomputer Institute, January.
- [400] J. COCKE AND D. SLOTNICK [1958]. *The use of parallelism in numerical calculations*, Research Memorandum RC-55, IBM.
- [401] B. CODENOTTI [1988]. *Fast parallel algorithms for matrix inversion and linear systems solution*, Appl. Math. Letters, 1, pp. 33-36.
- [402] B. CODENOTTI AND P. FAVATI [1987]. *Iterative methods for the parallel solution of linear systems*, I. J. Comp. & Math. Appl., 13, pp. 631-634.
- [403] B. CODENOTTI AND P. FAVATI [1987]. *Low rank modification of Jacobi and JOR iterative methods*, Comp. Math. Appl., 13, pp. 617-621.
- [404] E. COFFMAN AND R. GRAHAM [1972]. *Optimal scheduling for two-processor systems*, Acta Informatica, 1, pp. 200-213.
- [405] T. COLEMAN [1988]. *A chordal preconditioner for large scale optimization*, Math. Prog., 40, pp. 265-288.
- [406] W. COLLIER, C. McCALLIEN, AND J. ENDERBY [1984]. *Tough problems in reactor design*, in Paddon [1505], pp. 91-106.
- [407] P. CONCUS, G. GOLUB, AND G. MEURANT [1985]. *Block preconditioning for the conjugate gradient method*, SIAM J. Sci. Statist. Comput., 6, pp. 220-252.
- [408] V. CONRAD AND Y. WALLACH [1977]. *Iterative solution of linear equations on a parallel processor system*, IEEE Trans. Comput., C-26, pp. 838-847.
- [409] J. CONROY [1986]. *Parallel Direct Solution of Sparse Linear Systems of Equations*, PhD dissertation, University of Maryland. Also available as Computer Science Tech. Report No. 1714, October.
- [410] CONTROL DATA CORPORATION [1979]. *Final report. Feasibility study for NASF*, Contractor Report NAS2-9896, NASA.
- [411] CONTROL DATA CORPORATION [1982]. *Proceedings Symposium CYBER 205 Applications*, Ft. Collins, CO.
- [412] M. COSNARD, M. MARRAKCHI, Y. ROBERT, AND D. TRYSTRAM [1988]. *Parallel Gaussian elimination on an MIMD computer*, Parallel Computing, 6, pp. 275-296.
- [413] M. COSNARD, J. MULLER, AND Y. ROBERT [1986]. *Parallel QR-decomposition of a rectangular matrix*, Numer. Math., 48, pp. 239-249.
- [414] M. COSNARD AND Y. ROBERT [1986]. *Complexity of parallel QR factorization*, J. ACM, 33, pp. 712-723.
- [415] M. COSNARD, Y. ROBERT, P. QUINTON, AND M. TCHUENTE, eds. [1986]. *Parallel Algorithms and Architectures*, North-Holland, Amsterdam.
- [416] M. COSNARD, Y. ROBERT, AND D. TRYSTRAM [1985]. *Comparison des méthodes parallèles de diagonalisation pour la résolution de systèmes linéaires denses*, C.R. Acad. Sci. Paris, I 301(16), pp. 781-784.
- [417] M. COSNARD, Y. ROBERT, AND D. TRYSTRAM [1986]. *Résolution parallèle de systèmes linéaires denses par diagonalisation*, E.D.F. Bulletin de la Direction des Etudes et des Recherches, C(2), pp. 67-87.

- [418] G. COTTI [1987]. *A parallel perturbed biharmonic solver*, I. J. Comp. & Math. Appl., 13, pp. 681–86.
- [419] W. COWELL AND C. THOMPSON [1986]. *Transforming Fortran DO loops to improve performance on vector architectures*, ACM Trans. Math. Softw., 12, pp. 324–353.
- [420] C. COX [1988]. *Implementation of a divide and conquer cyclic reduction algorithm on the FPS T-20 hypercube*, Tech. Report URI-037, Department of Mathematical Sciences, Clemson University, January.
- [421] M. COX [1983]. *Ocean modeling on the Cyber 205 at GFDL*, in Gary [700], pp. 27–32.
- [422] R. CRANE, M. MINKOFF, K. HILLSTROM, AND S. KING [1986]. *Performance modeling of large-grained parallelism*, Tech. Report ANL/MLS-TM-63, Argonne National Laboratory, March.
- [423] CRAY RESEARCH, INC. [1982]. *Science, Engineering and the CRAY-1, Proceedings of a Cray Research Inc. Symposium*.
- [424] T. CROCKETT [1987]. *Performance of Fortran floating-point operations on the Flex/32 multi-computer*, ICASE Interim Report 4, ICASE, NASA Langley Research Center, Hampton, VA.
- [425] W. CROWTHER, J. GOODHUE, E. STARR, R. THOMAS, W. MILLIKEN, AND T. BLACKADAR [1985]. *Performance measurements on a 128-node Butterfly parallel processor*, Proc. 1985 Int. Conf. Par. Proc., pp. 531–540.
- [426] B. CRUTCHFIELD [1987]. *A vectorizing C compiler*, Supercomputer, 19, pp. 27–36.
- [427] L. CSANKY [1976]. *Fast parallel matrix inversion algorithms*, SIAM J. Comput., 5, pp. 618–623.
- [428] M. CULLEN [1983]. *Current progress and prospects in numerical techniques for weather prediction models*, J. Comp. Phys., 50, pp. 1–37.
- [429] J. CUPPEN [1981]. *A divide and conquer method for the symmetric tridiagonal eigenproblem*, Numer. Math., 36, pp. 177–195.
- [430] Z. CVETANOVIC [1986]. *Performance analysis of the FFT algorithm on a shared memory parallel architecture*, Tech. Report RC11719(52739), IBM T. J. Watson Research Center.
- [431] Z. CVETANOVIC [1987]. *The effects of problem partitioning allocation and granularity on the performance of multiple-processor systems*, IEEE Trans. Comput., C-36, pp. 421–432.
- [432] G. CYBENKO, D. KRUMME, AND K. VENKATARAMAN [1987]. *Fixed hypercube embedding*, Tech. Report, Department of Computer Science, Tufts University, August.
- [433] W. CYRE, C. DAVIS, A. FRANK, L. JEDYNAK, M. REDMOND, AND V. RIDEOUT [1977]. *WISPAC: A parallel array computer for large scale system simulation*, Simulation, 11, pp. 165–172.
- [434] C. DALY AND J. DUCROZ [1988]. *Performance of a subroutine library on vector processing machines*, Comput. Phys. Comm. To appear.
- [435] K. DATTA [1985]. *Parallel complexities and computations of Cholesky's decomposition and QR factorization*, Int. J. Comput. Math., 15, pp. 67–82.
- [436] A. DAVE AND I. DUFF [1987]. *Sparse matrix calculations on the CRAY-2*, Parallel Computing, 5, pp. 55–64.
- [437] E. DAVIDSON, D. KUCK, D. LAWRIE, AND A. SAMEH [1986]. *Supercomputing trade-offs and the Cedar system*, Tech. Report 577, Center for Supercomputing Research and Development, University of Illinois at Urbana-Champaign, May.
- [438] A. DAVIS [1983]. *Computer architecture*, IEEE Spectrum, 20(11), pp. 94–99.
- [439] G. DAVIS [1986]. *Column LU factorization with pivoting on a hypercube multiprocessor*, SIAM J. Algebraic Discrete Methods, 7, pp. 538–550.
- [440] G. DAVIS, R. FUNDERLIC, AND A. GEIST [1987]. *A hypercube implementation of the implicit double shift QR algorithm*, in Heath [858], pp. 619–626.
- [441] T. DAVIS [1986]. *PSolve: A concurrent algorithm for solving sparse systems of linear equations*, Tech. Report 612, Center for Supercomputing Research and Development, University of

- Illinois at Urbana-Champaign, December.
- [442] T. DAVIS AND E. DAVIDSON [1987]. *PSolve: A concurrent algorithm for solving sparse systems of linear equations*, Proc. 1987 Int. Conf. Par. Proc., pp. 483–490.
- [443] W. DAVY AND W. REINHARDT [1975]. *Computation of shuttle non-equilibrium flow fields on a parallel processor*, Tech. Report NASA SP-347, NASA Ames Research Center.
- [444] I. DAVYDOVA AND I. DAVYDOV [1985]. *Features characterizing the solution of computational problems on current and projected highly efficient computing systems*, Computational Processes and Systems, Izdatel'stvo Nauka, Moscow, pp. 162–172.
- [445] S. DAY AND B. SHKOLLER [1982]. *A 3-D earthquake model*, in Control Data Corporation [411].
- [446] M. DAYDE [1986]. *Parallelisation d'algorithmes d'optimisation pour des problèmes d'optimum design*, PhD dissertation, Institut National Polytechnique de Toulouse, France.
- [447] P. DE RIJK [1986]. *A one-sided Jacobi algorithm for computing the singular value decomposition on a vector computer*, Tech. Report 86-21, Math. Inst., Univ. Amsterdam.
- [448] C. DE VORE [1984]. *Vectorization and implementation of an efficient multigrid algorithm for the solution of elliptic partial differential equations*, Memorandum Report 5504, Naval Research Laboratory.
- [449] G. DEIWERT AND H. ROTHMUND [1983]. *Three dimensional flow over a conical afterbody containing a centered propulsive jet: A numerical simulation*, AIAA 16th Fluid and Plasma Dynamics Conference. Also in Gary [700], pp. 187–200.
- [450] E. DEKEL, D. NASSIMI, AND S. SAHNI [1981]. *Parallel matrix and graph algorithms*, SIAM J. Comput., 10, pp. 657–673.
- [451] J.-M. DELOSME [1987]. *A processor for two-dimensional symmetric eigenvalue and singular value arrays*, Tech. Report YALEU/DCS/RR-540, Department of Computer Science, Yale University, May.
- [452] J.-M. DELOSME AND I. IPSEN [1986]. *Parallel solution of symmetric positive definite systems with hyperbolic rotations*, Lin. Alg. & Appl., 77, pp. 75–111.
- [453] J.-M. DELOSME AND I. IPSEN [1987]. *Efficient systolic arrays for the solution of Toeplitz systems: An illustration of a methodology for the construction of systolic architectures in VLSI*, Systolic Arrays, Adam Hilger, Ltd., Bristol, pp. 37–46.
- [454] J.-M. DELOSME AND M. MORF [1981]. *Scattering arrays for matrix computations*, SPIE 25th Tech. Symp., San Diego, CA.
- [455] P. DELSARTE, Y. GENIN, AND Y. KAMP [1980]. *A method of matrix inverse triangular decomposition based on contiguous principal submatrices*, Lin. Alg. & Appl., 31, pp. 194–212.
- [456] L. DELVES, A. SAMBA, AND J. HENDRY [1984]. *Band matrices on the DAP*, in Paddon [1505], pp. 167–183.
- [457] B. DEMBART AND K. NEVES [1977]. *Sparse triangular factorization on vector computers*, Exploring Applications of Parallel Processing to Power System Analysis, Report EE 566-SR, Electric Power Research Institute.
- [458] J. DEMINET [1982]. *Experience with multiprocessor algorithms*, IEEE Trans. Comput., C-31, pp. 278–288.
- [459] P. DENNING [1985]. *Parallel computation*, American Scientist, 73, pp. 322–323.
- [460] P. DENNING [1987]. *Evaluating supercomputers*, Tech. Report TR-87.2, RIACS, NASA Ames Research Center, January.
- [461] P. DENNING AND G. ADAMS [1987]. *Research questions for performance analysis of supercomputers*, Proceedings of the International Symposium on Large Scale Scientific Computation, Amsterdam, Netherlands, North-Holland.
- [462] J. DENNIS [1980]. *Data flow supercomputers*, Computer, 13(11), pp. 48–56.
- [463] J. DENNIS [1982]. *High speed data flow computer architecture for the solution of the Navier-Stokes equations*, Tech. Report, Massachusetts Institute of Technology Laboratory for Computer Science.

- [464] J. DENNIS [1984]. *Data flow ideas for supercomputers*, Proc. COMPCON 84, IEEE Comp. Soc. Conf., pp. 15–20.
- [465] J. DENNIS [1984]. *High speed data flow computer architecture for the solution of the Navier-Stokes equations*, Computation Structures Group Memo 225, Massachusetts Institute of Technology Laboratory for Computer Science.
- [466] J. DENNIS, G. GAO, AND K. TODD [1984]. *Modeling the weather with a dataflow supercomputer*, IEEE Trans. Comput., C-33, pp. 592–603.
- [467] J. DENNIS AND K. WENG [1977]. *Application of data flow computation to the weather problem*, in Kuck et al. [1128], pp. 143–157.
- [468] J. DEUTSCH [1985]. *Algorithms and Architecture for Multiprocessor-Based Circuit Simulation*, PhD dissertation, University of California, Berkeley, Electronics Research Laboratory.
- [469] J. DEUTSCH AND A. NEWTON [1984]. *MSLICE: A multiprocessor based circuit simulator*, Proc. 1984 Int. Conf. Par. Proc., pp. 207–214.
- [470] J. DEUTSCH AND A. NEWTON [1984]. *A multiprocessor implementation of relaxation based electrical circuit simulation*, Proc. 21st Design Automation Conference.
- [471] J. DEVREESE AND P. VAN CAMP, eds. [1985]. *Supercomputers in Theoretical and Experimental Science*, Plenum Publishing Corp., New York, NY.
- [472] D. DEWEY AND A. PATERA [1987]. *Geometry-defining processors for partial differential equations*, Architecture and Performance of Specialized Computer Systems, B. Alder, ed., Academic Press.
- [473] S. DHALL AND C. LIU [1978]. *On a real-time scheduling problem*, Oper. Res., 26, pp. 127–140.
- [474] M. DIAMOND [1975]. *The stability of a parallel algorithm for the solution of tridiagonal linear systems*, Proc. 1975 Sagamore Conf. Par. Proc., p. 235.
- [475] J. DIAZ [1986]. *Calculating the block preconditioner on parallel multivector processors*, Proc. Workshop on Applied Computing in the Energy Field, Stillwater, OK.
- [476] J. DIAZ, S. BETTE, W. JINES, AND T. STEIHANG [1985]. *Development and performance of a block pre-conditioned iterative solver for linear systems in thermal simulation*, Tech. Report OU-PPI-TR-85-05, School of Electrical Engineering and Computer Science, University of Oklahoma, January.
- [477] J. DIAZ, W. JINES, A. McDONALD, AND T. STEIHANG [1986]. *Block diagonal scaling for iterative methods — Thermal simulation*, Comm. Applied Numer. Methods. To appear.
- [478] J. DIAZ, W. JINES, AND T. STEIHANG [1985]. *On a convergence criterion for linear (inner) iterative solvers for reservoir simulation*, Proc. SPE 1985 Res. Simul. Symp., Dallas, TX, February, pp. 41–47.
- [479] R. DIEKKAMPER [1984]. *Vectorized finite element analysis of nonlinear problems in structural analysis*, in Feilmeier et al. [623], pp. 293–298.
- [480] Q. DINH [1982]. *Simulation Numérique en Éléments Finis d'écoulements de Fluides Visqueux Incompressibles par Une Méthode de Décomposition de Domaines Sur Processeurs Vectoriels*, PhD dissertation, Univ. P. et M. Curie, Paris.
- [481] Q. DINH, R. GLOWINSKI, B. MANTEL, J. PERIAUX, AND P. PERRIER [1981]. *Subdomain solutions of nonlinear problems in fluid dynamics on parallel processors*, 5th International Symposium on Computational Methods in Applied Sciences and Engineering, Versailles, France, North-Holland.
- [482] L. DIXON, P. DUCKSBURY, AND P. SINGH [1982]. *A parallel version of the conjugate gradient algorithm for finite element problems*, Tech. Report 132, NOC, Hatfield, Herts.
- [483] L. DIXON AND K. PATEL [1982]. *The place of parallel computing in numerical optimization: Four parallel algorithms for nonlinear optimization*, Tech. Report 125, NOC, Hatfield, Herts.
- [484] D. DODSON [1981]. *Preliminary timing study for the CRAYPACK library*, Internal Memorandum G4550-CM-39, Boeing Computer Services.
- [485] D. DODSON AND J. LEWIS [1982]. *Improving the performance of a sparse matrix solver on the*

- CRAY-1*, in Cray Research, Inc. [423], pp. 13–15.
- [486] D. DODSON AND J. LEWIS [1985]. *Issues relating to extension of the basic linear algebra subprograms*, ACM SIGNUM Newsletter, 20(1), pp. 2–18.
- [487] S. DOI AND N. HARADA [1987]. *A preconditioning algorithm for solving nonsymmetric linear systems suitable for supercomputers*, in Kartashev and Kartashev [1051], pp. 503–509.
- [488] J. DONGARRA [1978]. *Some LINPACK timings on the CRAY-1*, Proc. 1978 LASL Workshop on Vector and Parallel Processors, pp. 58–75.
- [489] J. DONGARRA [1983]. *Redesigning linear algebra algorithms*, E.D.F. Bulletin de la Direction des Etudes et des Recherches, C(1), pp. 51–59.
- [490] J. DONGARRA [1984]. *Increasing the performance of mathematical software through high-level modularity*, Proc. Sixth Int. Symp. Comp. Methods in Eng. & Applied Sciences, Versailles, France, North-Holland, pp. 239–248.
- [491] J. DONGARRA [1985]. *Performance of various computers using standard linear equations software in a Fortran environment*, Tech. Report MCA-TM-23, Argonne National Laboratory.
- [492] J. DONGARRA [1986]. *How do the mini-supers stack up?*, Computer, 19(3), p. 92.
- [493] J. DONGARRA, ed. [1987]. *Experimental Parallel Computing Architectures*, North-Holland.
- [494] J. DONGARRA, J. DUCROZ, I. DUFF, AND S. HAMMARLING [1987]. *A proposal for a set of level 3 basic linear algebra subprograms*, ACM SIGNUM Newsletter, 22(3), pp. 2–14.
- [495] J. DONGARRA, J. DUCROZ, S. HAMMARLING, AND R. HANSON [1984]. *A proposal for an extended set of Fortran basic linear algebra subprograms*, Technical Memo 41, Mathematics and Computer Science Division, Argonne National Laboratory, December.
- [496] J. DONGARRA, J. DUCROZ, S. HAMMARLING, AND R. HANSON [1986]. *An update notice on the extended BLAS*, ACM SIGNUM Newsletter, 21(4), pp. 2–4.
- [497] J. DONGARRA, J. DUCROZ, S. HAMMARLING, AND R. HANSON [1988]. *An extended set of basic linear algebra subprograms*, ACM Trans. Math. Softw., 14, pp. 1–17.
- [498] J. DONGARRA AND I. DUFF [1986]. *Performance of vector computers for direct and indirect addressing in Fortran*, Harwell Report, Harwell Laboratory.
- [499] J. DONGARRA AND I. DUFF [1987]. *Advanced architecture computers*, Tech. Report ANL-MCS-TM-57 (Revision 1), Argonne National Laboratory.
- [500] J. DONGARRA AND S. EISENSTAT [1984]. *Squeezing the most out of an algorithm in CRAY-FORTRAN*, ACM Trans. Math. Softw., 10, pp. 221–230.
- [501] J. DONGARRA, F. GUSTAVSON, AND A. KARP [1984]. *Implementing linear algebra algorithms for dense matrices on a vector pipeline machine*, SIAM Rev., 26, pp. 91–112.
- [502] J. DONGARRA AND T. HEWITT [1986]. *Implementing dense linear algebra algorithms using multitasking on the CRAY X-MP-4 (or, Approaching the gigaflop)*, SIAM J. Sci. Statist. Comput., 7, pp. 347–350.
- [503] J. DONGARRA AND A. HINDS [1979]. *Unrolling loops in FORTRAN*, Softw. Pract. Exper., 9, pp. 219–229.
- [504] J. DONGARRA AND A. HINDS [1985]. *Comparison of the CRAY X-MP-4, Fujitsu VP-200 and Hitachi S-810/20. An Argonne perspective*, Tech. Report ANL-8579, Argonne National Laboratory, October.
- [505] J. DONGARRA AND R. HIROMOTO [1983]. *A collection of parallel linear equations routines for the Denelcor HEP*, Tech. Report ANL/MCS-TM-15, Argonne National Laboratory, Argonne, IL, September.
- [506] J. DONGARRA AND R. HIROMOTO [1984]. *A collection of parallel linear equation routines for the Denelcor HEP*, Parallel Computing, 1, pp. 133–142.
- [507] J. DONGARRA AND L. JOHNSSON [1987]. *Solving banded systems on a parallel processor*, Parallel Computing, 5, pp. 219–246.
- [508] J. DONGARRA, K. KAUFMAN, AND S. HAMMARLING [1986]. *Squeezing the most out of eigenvalue solvers on high performance computers*, Lin. Alg. & Appl., 77, pp. 113–136.
- [509] J. DONGARRA AND A. SAMEH [1984]. *On some parallel banded system solvers*, Tech. Report

- ANL/MCS-TM-27, Argonne National Laboratory.
- [510] J. DONGARRA, A. SAMEH, AND D. SORENSEN [1986]. *Implementation of some concurrent algorithms for matrix factorization*, Parallel Computing, 3, pp. 25–34.
 - [511] J. DONGARRA AND D. SORENSEN [1985]. *A fast algorithm for the symmetric eigenvalue problem*, IEEE Proceedings of the 7th Symposium on Computer Arithmetic, Urbana, pp. 338–342.
 - [512] J. DONGARRA AND D. SORENSEN [1986]. *Linear algebra on high performance computers*, Appl. Math. & Comp., 20, pp. 57–88.
 - [513] J. DONGARRA AND D. SORENSEN [1987]. *A fully parallel algorithm for the symmetric eigenvalue problem*, SIAM J. Sci. Statist. Comput., 8, pp. s139–s154.
 - [514] J. DONGARRA AND D. SORENSEN [1987]. *A portable environment for developing parallel FORTRAN programs*, Parallel Computing, 5, pp. 175–186.
 - [515] J. DONGARRA AND D. SORENSEN [1984]. *A parallel linear algebra library for the Denelcor HEP*, Tech. Report ANL/MCS/TM-33, Argonne National Laboratory.
 - [516] C. DOUGLAS, M. HENDERSON, S. HORIGUCHI, W. MIRANKER, B. SMITH, AND A. WINKLER [1988]. *The interaction of numerics and machines*, Research Report RC13429, IBM T.J. Watson Research Center, Yorktown Heights, NY.
 - [517] C. DOUGLAS, S. MA, AND W. MIRANKER [1987]. *Generating parallel algorithms through multigrid and aggregation/disaggregation techniques*, Proc. First IMACS Symposium on Computational Acoustics, D. Lee, R. Sternberg, and M. Schultz, eds., Amsterdam-New York, North-Holland.
 - [518] C. DOUGLAS AND W. MIRANKER [1988]. *Constructive interference in parallel algorithms*, SIAM J. Numer. Anal., 25, pp. 376–398.
 - [519] C. DOUGLAS AND W. MIRANKER [1988]. *Generating parallel algorithms through multigrid and aggregation/disaggregation techniques*, in McCormick [1306].
 - [520] C. DOUGLAS AND W. MIRANKER [1988]. *Some non-telescoping parallel algorithms based on serial multigrid/aggregation/disaggregation techniques*, in McCormick [1306], pp. 167–176.
 - [521] C. DOUGLAS AND B. SMITH [1988]. *Using symmetries and antisymmetries to analyze a parallel multigrid method*, SIAM J. Numer. Anal. To appear.
 - [522] K. DOWERS, S. LAKSHMIVARAHAN, AND S. DHALL [1987]. *On the comparison of the performance of Alliant FX/8, VAX 11/780, and IBM 3081 in solving linear tri-diagonal systems*, Tech. Report, School of Electrical Engineering and Computer Science, University of Oklahoma, January.
 - [523] B. DRAKE, F. LUK, J. SPEISER, AND J. SYMANSKI [1987]. *SLAPP: A systolic linear algebra parallel processor*, Computer, 20(7), pp. 45–47.
 - [524] J. DRAKE, B. LAWKINS, B. CARRERAS, H. HICKS, AND V. LYNCH [1987]. *Implementation of a 3-D nonlinear MHD calculation on the Intel hypercube*, Tech. Report ORNL-6335, Oak Ridge National Laboratory.
 - [525] R. DRESSLER, S. ROBERTSON, AND L. SPRADLEY [1982]. *Effects of Rayleigh accelerations applied to an initially moving fluid*, Materials Processing in the Reduced Gravity Environment of Space, G. Rindone, ed., Elsevier Science Publishing Co.
 - [526] J. DRUMMOND [1983]. *Numerical study of a ramjet dump combustor flow field*, Paper 83-0421, AIAA.
 - [527] J. DRUMMOND AND E. WEIDNER [1982]. *Numerical study of a scramjet engine flow field*, AIAA Journal, 20, pp. 1182–1187.
 - [528] M. DUBOIS [1987]. *Performance of S.O.R. algorithms in multiprocessors*, in Kartashev and Kartashev [1051], pp. 414–423.
 - [529] M. DUBOIS AND F. BRIGGS [1982]. *Performance of synchronized iterative processes in multiprocessor systems*, IEEE Trans. Softw. Eng., SE-8, pp. 419–431.
 - [530] P. DUBOIS [1982]. *Swimming upstream: Table lookups and the evaluation of piecewise defined functions on vector computers*, in Rodrigue [1636], pp. 129–151.

- [531] P. DUBOIS, A. GREENBAUM, AND G. RODRIGUE [1979]. *Approximating the inverse of a matrix for use in iterative algorithms on vector processors*, Computing, 22, pp. 257–268.
- [532] P. DUBOIS AND G. RODRIGUE [1977]. *An analysis of the recursive doubling algorithm*, in Kuck et al. [1128], pp. 299–305.
- [533] P. DUBOIS AND G. RODRIGUE [1977]. *Operator splitting on the STAR without transposing*, Tech. Report UCID-17515, Lawrence Livermore National Laboratory.
- [534] P. DUCKSBURY [1986]. *Parallel Array Processing*, Wiley.
- [535] J. DUROZ AND J. WASNIEWSKI [1987]. *Basic linear algebra computations on the Sperry ISP*, Supercomputer, 20/21, pp. 45–54.
- [536] I. DUFF [1982]. *The solution of sparse linear equations on the CRAY-1*, CRAY Channels, 4(3).
- [537] I. DUFF [1982]. *The solution of sparse linear equations on the CRAY-1*, in Cray Research, Inc. [423], pp. 17–39.
- [538] I. DUFF [1984]. *The solution of sparse linear equations on the CRAY-1*, in Kowalik [1111], pp. 293–309.
- [539] I. DUFF [1986]. *The influence of vector and parallel processors on numerical analysis*, Tech. Report AERE-R 12329, Computer Science and Systems Division, Harwell Laboratory, Oxon, England.
- [540] I. DUFF [1986]. *Parallel implementation of multifrontal schemes*, Parallel Computing, 3, pp. 193–204.
- [541] I. DUFF [1986]. *The parallel solution of sparse linear equations*. Handler, Haupt, Jeltsch, Juiling, and Lange.
- [542] I. DUFF [1986]. *Use of vector and parallel computers in the solution of large sparse linear equations*, Tech. Report ANL/MCS-TM-84, Argonne National Laboratory.
- [543] I. DUFF [1986]. *The use of vector and parallel computers in the solution of large sparse linear equations*, Tech. Report AERE-R 12393, Computer Science and Systems Division, Harwell Laboratory, Oxon, England.
- [544] I. DUFF [1987]. *Multiprocessing a sparse matrix code on the Alliant FX/8*, Tech. Report CSS-210, Computer Science and Systems Division, Harwell Laboratory, Oxon, England.
- [545] I. DUFF, N. GOULD, M. LESCENIER, AND J. REID [1987]. *The multifrontal method in a parallel environment*, Tech. Report CSS-211, Computer Science and Systems Division, Harwell Laboratory, Oxon, England.
- [546] I. DUFF AND L. JOHNSON [1986]. *The effect of orderings on the parallelization of sparse code*, Technical Memorandum, Mathematics and Computer Science Division, Argonne National Laboratory, Argonne, IL.
- [547] I. DUFF AND L. JOHNSON [1986]. *Node orderings and concurrency in sparse problems: An experimental investigation*, Proc. Int. Conf. Vector and Parallel Computing, Loen, Norway, June 2–6.
- [548] I. DUFF AND J. REID [1982]. *Experience of sparse matrix codes on the CRAY-1*, Comput. Phys. Comm., 76, pp. 293–302.
- [549] I. DUFF AND J. REID, eds. [1985]. *Vector and Parallel Processors in Computational Science*, Proc. 2nd Int. Conf., Oxford, August 1984, North-Holland.
- [550] R. DUGAN, I. DURHAM, AND S. TALUKDAR [1979]. *An algorithm for power system simulation by parallel processing*, Proc. IEEE Power Eng. Soc. Summer Meeting.
- [551] A. DULLER AND D. PADDON [1984]. *Processor arrays and the finite element method*, in Feilmeier et al. [623], pp. 131–136.
- [552] M. DUNGWORTH [1979]. *The CRAY-1 computer system*, in Jesshope and Hockney [972], pp. 51–76.
- [553] T. DUNIGAN [1987]. *Hypervolume performance*, in Heath [858], pp. 178–192.
- [554] T. DUNIGAN [1987]. *Performance of three hypervolumes*, Tech. Report ORNL/TM-10400, Oak Ridge National Laboratory, May.
- [555] T. DUNIGAN [1988]. *Performance of a second generation hypervolume*, Tech. Report ORNL/TM-

- 10881, Oak Ridge National Laboratory, September.
- [556] I. DURHAM, R. DUGAN, A. JONES, AND S. TALUKDAR [1979]. *Power system simulation on a multiprocessor*, Proc. IEEE Power Eng. Soc. Summer Meeting.
 - [557] J. EASTWOOD AND C. JESSHOPE [1977]. *The solution of elliptic partial differential equations using number theoretical transforms with applications to narrow or computer hardware*, Comput. Phys. Comm., 13, pp. 233-239.
 - [558] D. EBERHARDT, D. BAGANOFF, AND K. STEVENS [1984]. *Study of the mapping of Navier-Stokes algorithms onto multiple-instruction/multiple-data-stream computers*, Tech. Report TM-85945, NASA Ames Research Center.
 - [559] P. EBERLEIN [1987]. *On one-sided Jacobi methods for parallel computation*, SIAM J. Algebraic Discrete Methods, 8, pp. 790-796.
 - [560] P. EBERLEIN [1987]. *On the Schur decomposition of a matrix for parallel computation*, IEEE Trans. Comput., C-36, pp. 167-174.
 - [561] P. EBERLEIN [1987]. *On using the Jacobi method on the hypercube*, in Heath [858].
 - [562] J. ECKERT JR., J. MAUCHLY, H. GOLDSTEIN, AND J. BRAINERD [1945]. *Description of the ENIAC and comments on electronic digital computing machines*, Applied Mathematics Panel Report 171.2R, University of Pennsylvania.
 - [563] O. EGECIOGLU, E. GALLOPOULOS, AND C. KOC [1987]. *Parallel Hermite interpolation: An algebraic approach*, Tech. Report 671, Department of Computer Science, University of Illinois at Urbana-Champaign.
 - [564] L. EHRLICH [1986]. *The numerical Schwartz alternating procedure and SOR*, SIAM J. Sci. Statist. Comput., 7, pp. 989-993.
 - [565] V. EIJKHOUT [1985]. *Scalar recurrences on chainable pipeline architectures*, Tech. Report CNA-202, Center for Numerical Analysis, University of Texas at Austin, December.
 - [566] S. EISENSTAT, M. HEATH, C. HENKEL, AND C. ROMINE [1988]. *Modified cyclic algorithms for solving triangular systems on distributed-memory multiprocessors*, SIAM J. Sci. Statist. Comput., 9(3), pp. 589-600.
 - [567] S. EISENSTAT AND M. SCHULTZ [1981]. *Trends in elliptic problem solvers*, in Schultz [1742], pp. 99-114.
 - [568] K. EKANADHAM AND ARVIND [1987]. *SIMPLE: PART I — An exercise in future scientific programming*, Tech. Report RC-12686, IBM, Yorktown Heights, NY, April.
 - [569] M. EL TARAZI [1982]. *Some convergence results for asynchronous algorithms*, Numer. Math., 39, pp. 325-340.
 - [570] M. EL TARAZI [1985]. *Iterative methods for systems of first order differential equations*, IMA-JNA, 5, pp. 29-40.
 - [571] L. ELDEN [1987]. *A parallel QR decomposition algorithm*, Tech. Report, Department of Scientific Computing, Uppsala University, and Department of Mathematics, Linkoping University.
 - [572] G. ELLIS AND L. WATSON [1984]. *A parallel algorithm for simple roots of polynomials*, Comp. & Math., 10, pp. 107-122.
 - [573] H. ELMAN [1986]. *Approximate Schur complement preconditioners for serial and parallel computers*, Tech. Report 1704, Department of Computer Science, University of Maryland, College Park, MD, September.
 - [574] H. ELMAN AND E. AGRON [1988]. *Ordering techniques for the preconditioned conjugate gradient method on parallel computers*, Tech. Report TR-88-53, Department of Computer Science, University of Maryland.
 - [575] A. EMMEN, ed. [1985]. *Supercomputer Applications*, North-Holland, Amsterdam.
 - [576] P. EMMEN [1987]. *ETA-10: A "poor man's" supercomputer for 1 million dollars*, Supercomputer, 22, pp. 4-6.
 - [577] M. ENSELME, C. FRABOUL, AND P. LECA [1984]. *An MIMD architecture system for PDE numerical simulation*, in Vichnevetsky and Stepleman [1908], pp. 502-509.

- [578] P. ENSLOW [1977]. *Multiprocessor organization: A survey*, ACM Computing Surveys, 9, pp. 103–129.
- [579] M. EREEGOVAC AND T. LANG [1986]. *Vector processing*, in Fernbach [630], pp. 29–57.
- [580] J. ERHEL [1983]. *Parallelisation d'un algorithme de gradient conjugué preconditionné*, Tech. Report 189, INRIA.
- [581] J. ERHEL, W. JALBY, A. LICHNEWSKY, AND F. THOMASETT [1983]. *Quelques progrès en calcul parallèle et vectoriel*, Coll. Inf. sur des Méthodes de Calcul Scientifique et Technique.
- [582] J. ERHEL, A. LICHNEWSKY, AND F. THOMASETT [1982]. *Parallelism in finite element computations*. Presented at the IBM Symposium on Vector Computers and Scientific Computing, Rome.
- [583] J. ERICKSEN [1972]. *Iterative and direct methods for solving Poisson's equation and their adaptability to ILLIAC IV*, Tech. Report 60, Center for Advanced Computation, University of Illinois at Urbana-Champaign.
- [584] J. ERICKSEN AND R. WILHELMSON [1976]. *Implementation of a convective problem requiring auxiliary storage*, ACM Trans. Math. Softw., 2, pp. 187–195.
- [585] G. ERLEBACHER, S. BOKHARI, AND M. HUSSAINI [1987]. *An efficient parallel algorithm for the simulation of three-dimensional compressible transition on a 20 processor Flex/32 multicomputer*, Tech. Report 87-41, ICASE, NASA Langley Research Center, Hampton, VA.
- [586] C. ETHRIDGE, J. MOORE, AND V. TRUJILLO [1983]. *Experimental parallel microprocessor system*, Tech. Report LA-UR-83-1676, Los Alamos National Laboratory.
- [587] D. EVANS [1979]. *On the numerical solution of sparse systems of finite element equations*, The Mathematics of Finite Elements & Applications III, Mafelap 1978 Conference Proceedings, J. Whiteman, ed., New York, Academic Press, pp. 448–58.
- [588] D. EVANS [1982]. *Parallel numerical algorithms for linear systems*, in Evans [589], pp. 357–384.
- [589] D. EVANS, ed. [1982]. *Parallel Processing Systems*, Cambridge University Press.
- [590] D. EVANS [1983]. *New parallel algorithms in linear algebra*, E.D.F. Bulletin de la Direction des Etudes et des Recherches, C(1), pp. 61–69.
- [591] D. EVANS [1984]. *New parallel algorithms for partial differential equations*, in Feilmeier et al. [623], pp. 3–56.
- [592] D. EVANS [1984]. *Parallel S.O.R. iterative methods*, Parallel Computing, 1, pp. 3–18.
- [593] D. EVANS AND M. BEKAKOS [1988]. *The solution of linear systems by the QIF algorithm on a wavefront array processor*, Parallel Computing, 7, pp. 111–130.
- [594] D. EVANS AND R. DUNBAR [1983]. *The parallel solution of triangular systems of equations*, IEEE Trans. Comput., C-32, pp. 201–204.
- [595] D. EVANS AND A. HADJIDIMOS [1980]. *A modification of the Quadrant Interlocking Factorisation parallel method*, Int. J. Comput. Math., 8, pp. 149–166.
- [596] D. EVANS AND A. HADJIDIMOS [1981]. *Parallel solution to certain banded symmetric and centro-symmetric systems by using the Quadrant Interlocking Factorization method*, Math. Comp. Simul., 23, pp. 180–187.
- [597] D. EVANS, A. HADJIDIMOS, AND D. NOUTSOS [1981]. *The parallel solution of banded linear equations by the new Quadrant Interlocking Factorisation (Q.I.F.) method*, Int. J. Comput. Math., 9, pp. 151–62.
- [598] D. EVANS AND M. HATZOPOLOUS [1979]. *A parallel linear systems solver*, Int. J. Comput. Math., 7, pp. 227–38.
- [599] D. EVANS, S. JIANPING, AND K. LISHAN [1988]. *The convergence factor of the parallel Schwartz overrelaxation method for linear systems*, Parallel Computing, 6, pp. 313–324.
- [600] D. EVANS AND K. MAGARITIS [1988]. *Optical processing of banded matrix algorithms using outer product concepts*, Parallel Computing, 6, pp. 119–126.
- [601] D. EVANS AND G. MEGSON [1987]. *Construction of extrapolation tables by systolic arrays for solving ordinary differential equations*, Parallel Computing, 4, pp. 33–48.

- [602] D. EVANS AND S. OKOLIE [1981]. *A recursive decoupling algorithm for solving banded linear systems*, Int. J. Comput. Math., 10, pp. 139–152.
- [603] D. EVANS, J. SHANEHCHI, AND R. BARLOW [1984]. *Implementation of the conjugate gradient and Lanczos algorithms for large sparse banded matrices on the ICL DAP*, in Feilmeier et al. [623], pp. 143–151.
- [604] D. EVANS AND R. SOJODI-HAGHIGHI [1982]. *Parallel iterative methods for solving linear equations*, Int. J. Comput. Math., 11, pp. 247–284.
- [605] L. EWERBRING, F. LUK, AND A. RUTTENBERT [1988]. *SVD computation on the Connection Machine*, 21st Annual Hawaii International Conf. on Sys. Sci.
- [606] V. FABER [1981]. *Block relaxation strategies*, in Schultz [1742], pp. 271–275.
- [607] V. FABER [1987]. *Global communication algorithms for hypercubes and other Cayley coset graphs*, Tech. Report LA-UR-87-3136, Los Alamos National Laboratory.
- [608] V. FABER [1987]. *Latency and diameter in sparsely populated processor interconnection networks: A time and space analysis*, Tech. Report LA-UR-87-3635, Los Alamos National Laboratory.
- [609] E. FADDEN [1980]. *The AD-10: A digital computer approach to time critical simulation*, Proc. 4th Power Plant Dynamics, Control, and Testing Symposium.
- [610] V. FADEEVA AND D. FADEEV [1977]. *Parallel computations in linear algebra*, Kibernetika, 6, pp. 28–40.
- [611] C. FARHAT [1986]. *Multiprocessors in Computational Mechanics*, PhD dissertation, University of California at Berkeley, Department of Civil Engineering.
- [612] C. FARHAT AND E. WILSON [1987]. *Concurrent iterative solution of large finite element systems*, Comm. Appl. Numer. Meth., 3, pp. 319–326.
- [613] C. FARHAT AND E. WILSON [1987]. *Modal superposition dynamic analysis on concurrent multiprocessors*, Eng. Computations.
- [614] C. FARHAT AND E. WILSON [1987]. *Solution of finite element systems on concurrent processing computers*, Eng. Computers, 2, pp. 147–165.
- [615] P. FARMWALD [1984]. *The S-1 Mark IIA supercomputer*, in Kowalik [1111], pp. 145–155.
- [616] R. FATOOGHI AND C. GROSCH [1987]. *Implementation of a four color cell relaxation scheme on the MPP, Flex/32 and CRAY-2*, Proc. 1987 Int. Conf. Par. Proc., pp. 424–426.
- [617] R. FATOOGHI AND C. GROSCH [1987]. *Implementation of an ADI method on parallel computers*, J. Sci. Comp., 2, pp. 175–193.
- [618] R. FATOOGHI AND C. GROSCH [1988]. *Implementation and analysis of a Navier-Stokes algorithm on parallel computers*, Tech. Report 88-5, ICASE, NASA Langley Research Center, Hampton, VA.
- [619] R. FATOOGHI AND G. GROSCH [1987]. *Solving the Cauchy-Riemann equations on parallel computers*, Tech. Report 87-34, ICASE, NASA Langley Research Center.
- [620] G. FEIERBACH AND D. STEVENSON [1979]. *The ILLIAC IV*, in Jesshope and Hockney [972], pp. 77–92.
- [621] M. FEILMEIER, ed. [1977]. *Parallel Computers — Parallel Mathematics, Proceedings of the IMACS Symposium*, Amsterdam, North-Holland.
- [622] M. FEILMEIER [1982]. *Parallel numerical algorithms*, in Evans [589], pp. 285–338.
- [623] M. FEILMEIER, G. JOUBERT, AND U. SCHENDEL, eds. [1984]. *Parallel Computing 83: Proceedings of the International Conference on Parallel Computing*, New York, North-Holland.
- [624] M. FEILMEIER, G. JOUBERT, AND U. SCHENDEL, eds. [1986]. *Parallel Computing 85: Proceedings of the International Conference on Parallel Computing*, New York, North-Holland.
- [625] M. FEILMEIER AND W. RÖNSCH [1982]. *Parallel nonlinear algorithms*, Comput. Phys. Comm., 76, pp. 335–348.
- [626] C. FELIPPA [1981]. *Architecture of a distributed analysis network for computational mechanics*, Computers and Structures, 13, pp. 405–413.
- [627] T. FENG [1981]. *A survey of interconnection networks*, Computer, 14(12), pp. 12–27.

- [628] J. FEO [1988]. *An analysis of the computational and parallel complexity of the Livermore loops*, Parallel Computing, 7, pp. 163–186.
- [629] E. FERNANDEZ AND B. BUSSEL [1973]. *Bounds on the number of processors and time for multiprocessor optimal schedules*, IEEE Trans. Comput., C-22, pp. 745–751.
- [630] S. FERNBACH, ed. [1986]. *Supercomputers*, North-Holland.
- [631] W. FICHTNER, L. NAGEL, R. PENUMALLI, W. PETERSON, AND J. D'ARCY [1984]. *The impact of supercomputers on IC technology development and design*, Proc. IEEE, 72, pp. 76–112.
- [632] J. FIELD, A. KAPAUAN, AND L. SNYDER [1983]. *Pringle: A parallel processor to emulate chip computers*, Tech. Report CSD-TR-433, Department of Computer Science, Purdue University.
- [633] A. FINN, F. LUK, AND C. POTTELL [1982]. *Systolic array computation of the singular value decomposition*, Proc. SPIE Symposium, Vol. 341 (Real Time Processing V), pp. 35–43.
- [634] D. FISHER [1985]. *Matrix computation on processors in one, two and three dimensions*, Tech. Report 1556, Department of Computer Science, University of Maryland, August.
- [635] D. FISHER [1988]. *Your favorite parallel algorithm may not be as fast as you think*, IEEE Trans. Comput., 37, pp. 211–214.
- [636] P. FLANDERS, D. HUNT, S. REDDAWAY, AND D. PARKINSON [1977]. *Efficient high speed computing with the distributed array processor*, in Kuck et al. [1128], pp. 113–128.
- [637] M. FLYNN [1966]. *Very high speed computing systems*, Proc. IEEE, 54, pp. 1901–1909.
- [638] M. FLYNN [1972]. *Some computer organizations and their effectiveness*, IEEE Trans. Comput., C-21, pp. 948–960.
- [639] H. FOERSTER, K. STEUBEN, AND U. TROTTERBERG [1981]. *Nonstandard multigrid techniques using checkered relaxation and intermediate grids*, in Schultz [1742], pp. 285–300.
- [640] S. FOLLIN AND M. KASCIC [1986]. *A marching method for solving Poisson's equation on the ETA-10*, Comm. Appl. Numer. Meth., 2, pp. 239–243.
- [641] K. FONG AND T. JORDAN [1977]. *Some linear algebraic algorithms and their performance on the CRAY-1*, Tech. Report LA-6774, Los Alamos National Laboratory.
- [642] R. FONTECILLA [1987]. *A parallel nonlinear Jacobi algorithm for solving nonlinear equations*, Tech. Report 1807, Department of Computer Science, University of Maryland, March.
- [643] B. FORNBERG [1981]. *A vector implementation of the fast Fourier transform algorithm*, Math. Comp., 36, pp. 189–191.
- [644] B. FORNBERG [1983]. *Steady viscous flow past a circular cylinder*, in Gary [700], pp. 201–224.
- [645] C. FOSTER [1976]. *Content Addressable Parallel Processors*, van Nostrand Reinhold.
- [646] D. FOULSER AND R. SCHREIBER [1987]. *The Saxpy Matrix-1: A general-purpose systolic computer*, Computer, 20(7), pp. 35–43.
- [647] G. FOX [1984]. *Concurrent processing for scientific calculations*, Proc. COMPCON 84, IEEE Comp. Sci. Conf., pp. 70–73.
- [648] G. FOX [1985]. *Square matrix decomposition — Symmetric, local, scattered*, CalTech Publication Hm-97, California Institute of Technology, Pasadena, CA.
- [649] G. FOX [1987]. *The Caltech concurrent computation program*, in Heath [858], pp. 353–381.
- [650] G. FOX AND W. FURMANSKI [1987]. *Communication algorithms for regular convolutions and matrix problems on the hypercube*, in Heath [858], pp. 223–238.
- [651] G. FOX, M. JOHNSON, G. LYSENKA, S. OTTO, AND J. SALMON, eds. [1988]. *Solving Problems on Concurrent Processors, Volume I: General Techniques and Regular Problems*, Prentice-Hall, Inc. (To be published), Englewood Cliffs, NJ.
- [652] G. FOX, A. KOWALA, AND R. WILLIAMS [1987]. *The implementation of a dynamic load balancer*, in Heath [858], pp. 114–121.
- [653] G. FOX AND S. OTTO [1984]. *Algorithms for concurrent processors*, Physics Today, 37(5), pp. 50–59.
- [654] G. FOX AND S. OTTO [1986]. *Concurrent computation and the theory of complex systems*, in

- Heath [856], pp. 244–268.
- [655] G. FOX, S. OTTO, AND A. HEY [1987]. *Matrix algorithms on a hypercube I. Matrix multiplication*, Parallel Computing, 4, pp. 17–32.
- [656] F. FRAILONG AND J. PAKLEZA [1979]. *Resolution of a general partial differential equation on a fixed size SIMD/MIMD large cellular processor*, Proceedings of the IMACS International Congress, Sorento.
- [657] J. FRANCIONI AND J. JACKSON [1987]. *An implementation of a 2^d-section root finding method for the FPS T-series hypercube*, in Heath [858], pp. 495–500.
- [658] M. FRANKLIN [1978]. *Parallel solution of ordinary differential equations*, IEEE Trans. Comput., C-25, pp. 413–470.
- [659] M. FRANKLIN AND S. DHAR [1986]. *Interconnection networks: Physical design and performance analysis*, J. Par. Dist. Comp., 3, pp. 352–372.
- [660] P. FREDERICKSON, R. HIROMOTO, AND J. LARSON [1987]. *A parallel Monte Carlo transport algorithm using a psuedo-random tree to guarantee reproducibility*, Parallel Computing, 4, pp. 281–290.
- [661] P. FREDERICKSON AND O. MCBRYAN [1983]. *Parallel superconvergent multigrid*, in McCormick [1306], pp. 195–210.
- [662] A. FRIEDMAN AND D. KERSHAW [1982]. *Vectorized incomplete Cholesky conjugate gradient (ICCG) package for the CRAY-1 computer*, Laser Program Annual Report UCRL-500021-81, Lawrence Livermore National Laboratory.
- [663] S. FULLER, A. JONES, AND I. DURHAM [1980]. *CMU Cm* review*, Tech. Report AD-A050135, Department of Computer Science, Carnegie-Mellon University.
- [664] S. FULLER AND P. OLEINICK [1976]. *Initial measurements of parallel programs on a multiprocessor*, Proc. 13th IEEE Computer Soc. Int. Conf., pp. 358–363.
- [665] S. FULLER, J. OUSTERBOUT, L. RASKIN, P. RUBINFELD, P. SUNDHU, AND R. SWAN [1978]. *Multi-microprocessors: An overview and working example*, Proc. IEEE, 66(2), pp. 216–228.
- [666] R. FULTON [1986]. *The impact of parallel computing on finite element computations*, Reliability of Methods for Engineering Analysis, Pineridge Press, Swansea, pp. 179–196.
- [667] R. FUNDERLIC AND A. GEIST [1986]. *Torus data flow for parallel computation of missized matrix problems*, Lin. Alg. & Appl., 77, pp. 149–163.
- [668] P. GADER [1988]. *Tridiagonal factorizations of Fourier matrices and application to parallel computations of discrete Fourier transforms*, Lin. Alg. & Appl., 102, pp. 169–210.
- [669] D. GAJSKI [1979]. *Solving banded triangular systems on pipelined machines*, Proc. 1979 Int. Conf. Par. Proc., pp. 308–319.
- [670] D. GAJSKI [1981]. *An algorithm for solving linear recurrence systems on parallel and pipelined machines*, IEEE Trans. Comput., C-30, pp. 190–206.
- [671] D. GAJSKI, D. KUCK, D. LAWRIE, AND A. SAMEH [1983]. *Cedar — A large scale multiprocessor*, Proc. 1983 Int. Conf. Par. Proc., pp. 524–529.
- [672] D. GAJSKI, D. LAWRIE, D. KUCK, AND A. SAMEH [1984]. *Cedar*, Proc. COMPCON 84, IEEE Comp. Soc. Conf., pp. 306–309.
- [673] D. GAJSKI AND J.-K. PEIR [1985]. *Essential issues in multiprocessor systems*, Computer, 18(6), pp. 9–27.
- [674] D. GAJSKI, A. SAMEH, AND J. WISNIENSKI [1982]. *Iterative algorithms for tridiagonal matrices on a WSI-multiprocessor*, Proc. 1982 Int. Conf. Par. Proc., pp. 82–89.
- [675] Z. GALIL AND W. PAULI [1983]. *An efficient general-purpose parallel computer*, J. ACM, 30, pp. 286–299.
- [676] K. GALLIVAN, W. JALBY, AND U. MEIER [1987]. *The use of BLAS3 in linear algebra on a parallel processor with a hierarchical memory*, SIAM J. Sci. Statist. Comput., 8, pp. 1079–1084.
- [677] K. GALLIVAN, W. JALBY, U. MEIER, AND A. SAMEH [1987]. *The impact of hierarchical memory systems on linear algebra algorithm design*, CSRD Report 625, Center for Su-

- percomputing Research and Development, University of Illinois at Urbana-Champaign.
- [678] E. GALLOPOULOS [1984]. *The Massively Parallel Processor for problems in fluid dynamics*, Proc. Vector and Parallel Processors in Computational Science II Conference, Oxford, England.
- [679] E. GALLOPOULOS [1985]. *Fluid dynamics modeling*, in Potter [1577], pp. 85–103.
- [680] E. GALLOPOULOS AND S. McEWAN [1983]. *Numerical experiments with the Massively Parallel Processor*, Proc. 1983 Int. Conf. Par. Proc., pp. 29–35.
- [681] E. GALLOPOULOS AND Y. SAAD [1987]. *A parallel block cyclic reduction algorithm for the fast solution of elliptic equations*, Tech. Report 659, Center for Supercomputing Research and Development, University of Illinois at Urbana-Champaign, April. To appear in Proc. Int. Conf. Supercomputing, Athens, Greece.
- [682] G. GAMBOLATI, G. PINI, AND G. ZILLI [1988]. *Comparison of preconditionings for large sparse finite element problems*, Numer. Meth. PDE, 4, pp. 139–157.
- [683] D. GANNON [1980]. *A note on pipelining a mesh connected multiprocessor for finite element problems by nested dissection*, Proc. 1980 Int. Conf. Par. Proc., pp. 197–204.
- [684] D. GANNON [1981]. *On mapping non-uniform PDE structures and algorithms onto uniform array architectures*, Proc. 1981 Int. Conf. Par. Proc., pp. 100–105.
- [685] D. GANNON [1985]. *On the structure of parallelism in a highly concurrent PDE solver*, Proceedings of the 7th Symposium on Computer Arithmetic, H. Kai, ed., Urbana, IL, pp. 252–259.
- [686] D. GANNON [1986]. *Restructuring nested loops on the Alliant Cedar cluster: A case study of Gaussian elimination of banded matrices*, Tech. Report 543, Center for Supercomputing Research and Development, University of Illinois at Urbana-Champaign, February.
- [687] D. GANNON AND W. JALBY [1987]. *The influence of memory hierarchy on algorithm organization: Programming FFTs on a vector multiprocessor*, Tech. Report 663, Center for Supercomputing Research and Development, University of Illinois at Urbana-Champaign, May.
- [688] D. GANNON AND J. PANETTA [1986]. *Restructuring SIMPLE for the CHiP architecture*, Parallel Computing, 3, pp. 305–326.
- [689] D. GANNON, L. SNYDER, AND J. VAN ROSENDALE [1983]. *Programming substructure computations for elliptic problems on the CHiP system*, in Noor [1443], pp. 65–80.
- [690] D. GANNON AND J. VAN ROSENDALE [1984]. *On the impact of communication complexity in the design of parallel numerical algorithms*, IEEE Trans. Comput., C-33, pp. 1180–1194.
- [691] D. GANNON AND J. VAN ROSENDALE [1984]. *Parallel architectures for iterative methods on adaptive, block structured grids*, in Birkhoff and Schoenstadt [173], pp. 93–104.
- [692] D. GANNON AND J. VAN ROSENDALE [1986]. *On the structure of parallelism in a highly concurrent PDE solver*, J. Par. Dist. Comp., 3, pp. 106–135.
- [693] G. GAO [1986]. *A maximally pipelined tridiagonal linear equation solver*, J. Par. Dist. Comp., 3, pp. 215–235.
- [694] G. GAO [1986]. *A pipelined solution method of tridiagonal linear equation systems*, Proc. 1986 Int. Conf. Par. Proc., pp. 84–91.
- [695] G. GAO [1987]. *A stability classification method and its application to pipelined solution of linear recurrences*, Parallel Computing, 4, pp. 305–321.
- [696] Q.-S. GAO AND R.-Q. WANG [1983]. *Vector computer for sparse matrix operations*, Proc. 1983 Int. Conf. Par. Proc., pp. 87–89.
- [697] J. GARDINER AND A. LAUB [1987]. *Implementation of two control system design algorithms on a message-passing hypercube*, in Heath [858], pp. 512–519.
- [698] M. GAREY, R. GRAHAM, AND D. JOHNSON [1978]. *Performance guarantees for scheduling algorithms*, Oper. Res., 26, pp. 3–21.
- [699] J. GARY [1977]. *Analysis of applications programs and software requirements for high speed computers*, in Kuck et al. [1128], pp. 329–354.

- [700] J. GARY, ed. [1984]. *CYBER 200 Applications Seminar, Proceedings of seminar held at NASA Goddard Space Flight Center, October, 1983.* NASA-CP-2295.
- [701] J. GARY, S. MCCORMICK, AND R. SWEET [1983]. *Successive overrelaxation, multigrid, and preconditioned conjugate gradients algorithms for solving a diffusion problem on a vector computer,* Appl. Math. & Comp., 13(3-4), pp. 285–310. (Special Issue, Proceedings of the First Copper Mountain Conference on Multigrid Methods, Copper Mountain, CO, S. McCormick and U. Trottenberg, eds.).
- [702] M. GAUTZSCH, G. WEILAND, AND D. MULLER-RICHARDS [1980]. *Possibilities and problems with the application of vector computers,* Tech. Report, German Research and Testing Establishment for Aerospace.
- [703] T. GAYLORD AND E. VECRIEST [1987]. *Matrix triangularization using arrays of integrated optical Givens rotation devices,* Computer, 20(12), pp. 59–66.
- [704] W. GEAR [1986]. *The potential for parallelism in ordinary differential equations,* Tech. Report R-86-1246, Department of Computer Science, University of Illinois at Urbana-Champaign, February.
- [705] N. GEHANI [1984]. *Ada Concurrent Programming,* Prentice-Hall, Inc., Englewood Cliffs, NJ.
- [706] D. GEHRINGER, D. SIEWIOREK, AND Z. SEGALL [1987]. *Parallel Processing: The Cm* Experience,* Digital Press, Digital Equipment Corp., Bedford, MA.
- [707] E. GEHRINGER, A. JONES, AND Z. SEGALL [1982]. *The Cm* testbed,* Computer, 15(10), pp. 40–53.
- [708] A. GEIST [1985]. *Efficient parallel LU factorization with pivoting on a hypercube multiprocessor,* Tech. Report ORNL-6211, Oak Ridge National Laboratory, October.
- [709] A. GEIST [1987]. *Solving finite element problems with parallel multifrontal schemes,* in Heath [858], pp. 656–661.
- [710] A. GEIST AND G. DAVIS [1988]. *Finding eigenvalues and eigenvectors of unsymmetric matrices using a hypercube multiprocessor,* Tech. Report ORNL/TM-10938, Oak Ridge National Laboratory, October.
- [711] A. GEIST AND M. HEATH [1985]. *Parallel Cholesky factorization on a hypercube multiprocessor,* Tech. Report ORNL-6190, Oak Ridge National Laboratory, August.
- [712] A. GEIST AND M. HEATH [1986]. *Matrix factorization on a hypercube multiprocessor,* in Heath [856], pp. 161–180.
- [713] A. GEIST, M. HEATH, AND E. NG [1987]. *Parallel algorithms for matrix computations,* The Characteristics of Parallel Algorithms, R. Douglass, D. Gannon, and L. Jamieson, eds., MIT Press, Cambridge, pp. 233–251.
- [714] A. GEIST AND E. NG [1988]. *A partitioning strategy for parallel sparse Cholesky factorization,* Tech. Report ORNL/TM-10937, Oak Ridge National Laboratory, September.
- [715] A. GEIST AND C. ROMINE [1988]. *LU factorization algorithms on distributed-memory multiprocessor architectures,* SIAM J. Sci. Statist. Comput., 9(4), pp. 639–649.
- [716] A. GEIST, R. WARD, G. DAVIS, AND R. FUNDERLIC [1988]. *Finding eigenvalues and eigenvectors of unsymmetric matrices using a hypercube multiprocessor,* Proc. Third Conf. Hypercube Concurrent Comput. Appl., G. Fox, ed., New York, Association for Computing Machinery, pp. 1577–1582.
- [717] E. GELENBE, A. LICHNEWSKY, AND A. STAPHYLOPATIS [1982]. *Experience with the parallel solution of partial differential equations on a distributed computing system,* IEEE Trans. Comput., C-31, pp. 1157–1165.
- [718] W. GENTLEMAN [1975]. *Error analysis of the QR decomposition by Givens transformations,* Lin. Alg. & Appl., 10, pp. 189–197.
- [719] W. GENTLEMAN [1978]. *Some complexity results for matrix computations on parallel processors,* J. ACM, 25, pp. 112–115.
- [720] W. GENTLEMAN [1981]. *Design of numerical algorithms for parallel processing.* Presented at the Parallel Processing Conference at Bergamo, Italy.

- [721] W. GENTLEMAN AND H. KUNG [1981]. *Matrix triangularization by systolic arrays*, Proc. SPIE 298, Real-time Signal Processing IV, pp. 19–26.
- [722] W. GENTZSCH [1983]. *How to maintain the efficiency of highly serial algorithms involving recursions on vector computers*, Proc. Conf. Vector and Parallel Methods in Scientific Computing, Paris.
- [723] W. GENTZSCH [1984]. *Benchmark results on physical flow problems*, in Kowalik [1111], pp. 211–228.
- [724] W. GENTZSCH [1984]. *Numerical algorithms in computational fluid dynamics on vector computers*, Parallel Computing, 1, pp. 19–33.
- [725] W. GENTZSCH [1984]. *Vectorization of Computer Programs with Applications to Computational Fluid Dynamics*, Heyden & Son, Philadelphia, PA.
- [726] W. GENTZSCH [1987]. *A fully vectorizable SOR variant*, Parallel Computing, 4, pp. 349–354.
- [727] W. GENTZSCH AND G. SCHAFER [1984]. *Solution of large linear systems on vector computers*, in Feilmeier et al. [623], pp. 159–166.
- [728] A. GENZ AND D. SWAYNE [1984]. *Parallel implementation of ALOD methods for partial differential equations*, in Feilmeier et al. [623], pp. 167–172.
- [729] A. GEORGE, M. HEATH, AND J. LIU [1986]. *Parallel Cholesky factorization on a shared memory multiprocessor*, Lin. Alg. & Appl., 77, pp. 165–187.
- [730] A. GEORGE, M. HEATH, J. LIU, AND E. NG [1986]. *Solution of sparse positive definite systems on a shared memory multiprocessor*, Int. J. Par. Prog., 15, pp. 309–325.
- [731] A. GEORGE, M. HEATH, J. LIU, AND E. NG [1988]. *Solution of sparse positive definite systems on a hypercube*, Tech. Report ORNL/TM-10865, Oak Ridge National Laboratory, October. (Submitted to J. Comput. Appl. Math.).
- [732] A. GEORGE, M. HEATH, J. LIU, AND E. NG [1988]. *Sparse Cholesky factorization on a local memory multiprocessor*, SIAM J. Sci. Statist. Comput., 9, pp. 327–340.
- [733] A. GEORGE, M. HEATH, E. NG, AND J. LIU [1987]. *Symbolic Cholesky factorization on a local-memory multiprocessor*, Parallel Computing, 5, pp. 85–96.
- [734] A. GEORGE, J. LIU, AND E. NG [1987]. *Communication reduction in parallel sparse Cholesky factorization on a hypercube*, in Heath [858], pp. 576–586.
- [735] A. GEORGE, J. LIU, AND E. NG [1988]. *Communication results for parallel sparse Cholesky factorization on a hypercube*. Submitted to Parallel Computing.
- [736] A. GEORGE AND E. NG [1988]. *Parallel sparse Gaussian elimination with partial pivoting*, Tech. Report ORNL/TM-10866, Oak Ridge National Laboratory. (To appear in Annals of Operations Research).
- [737] A. GEORGE AND E. NG [1988]. *Some shared memory is desirable in parallel sparse matrix computations*, SIGNUM Newsletter, 23(2), pp. 9–13.
- [738] A. GEORGE, W. POOLE, AND R. VOIGT [1978]. *Analysis of dissection algorithms for vector computers*, Comput. Math. Appl., 4, pp. 287–304.
- [739] A. GEORGE, W. POOLE, AND R. VOIGT [1978]. *A variant of nested dissection for solving n by n grid problems*, SIAM J. Numer. Anal., 15, pp. 662–673.
- [740] A. GERASOULIS, N. MISSIRILIS, I. NELKEN, AND R. PESKIN [1988]. *Implementing Gauss Jordan on a hypercube multicomputer*, Proc. 3rd Conf. on Hypercube Multiprocessors.
- [741] I. GERTNER AND M. SHAMASH [1987]. *VLSI architectures for multidimensional Fourier transform processing*, IEEE Trans. Comput., C-36, pp. 1265–1274.
- [742] A. GHOSH [1987]. *Realization of conjugate gradient algorithm on optical linear algebra processors*, Applied Optics, 26(2), pp. 611–613.
- [743] H. GIETL [1987]. *The conjugate gradient method with vectorized preconditioning on the Siemens XP-200 vector processor*, Supercomputer, 19, pp. 43–51.
- [744] E. GILBERT [1958]. *Gray codes and paths on the n -cube*, Bell System Tech. J., 37, pp. 815–826.
- [745] E. GILBERT [1982]. *Algorithm partitioning tools for a high-performance multiprocessor*, Tech. Report UCRL-53401, Lawrence Livermore National Laboratory, Livermore, CA, December.

- [746] J. GILBERT [1988]. *An efficient parallel sparse partial pivoting algorithm*, Tech. Report CMI 88/45052-1, Dept. of Science and Technology, Chr-Michelson Institute, August.
- [747] J. GILBERT AND H. HAFSTEINSSON [1986]. *A parallel algorithm for finding fill in a sparse symmetric matrix*, Tech. Report TR 86-789, Department of Computer Science, Cornell University.
- [748] J. GILBERT AND E. ZMIJEWSKI [1987]. *A parallel graph partitioning algorithm for a message-passing multiprocessor*, Tech. Report TR 87-803, Department of Computer Science, Cornell University.
- [749] D. GILL AND E. TADMOR [1988]. *An $O(N^2)$ method for computing the eigensystem of $N \times N$ symmetric tridiagonal matrices by the divide and conquer approach*, Tech. Report 88-19, ICASE, NASA Langley Research Center, Hampton, VA.
- [750] S. GILL [1968]. *Parallel programming*, Comput. J., 1, pp. 2–10.
- [751] P. GILMORE [1968]. *Structuring of parallel algorithms*, J. ACM, 15, pp. 176–192.
- [752] P. GILMORE [1971]. *Numerical solution of partial differential equations by associative processing*, Proc. 1971 FJCC, AFIPS Press, Montvale, NJ, pp. 411–418.
- [753] P. GILMORE [1971]. *Parallel relocation*, Tech. Report, Goodyear Aerospace Corporation, Akron, OH.
- [754] R. GINOSAR AND D. HILL [1985]. *Design and implementation of switching systems for parallel processors*, Proc. 1985 Int. Conf. Par. Proc., pp. 674–680.
- [755] M. GINSBURG [1982]. *Some observations on supercomputer computational environments*, Proc. 10th IMACS World Congress on Systems Simulation and Scientific Computation, vol. 1, IMACS, pp. 297–301.
- [756] E. GIROUX [1977]. *A large mathematical model implementation on the STAR-100 computer*, in Kuck et al. [1128], pp. 287–298.
- [757] B. GLICKFELD AND R. OVERBEEK [1985]. *Quasi-automatic parallelization: A simplified approach to multiprocessing*, Tech. Report ANL-85-70, Argonne National Laboratory, Argonne, IL.
- [758] I. GLOUDEMAN [1984]. *The anticipated impact of supercomputers on finite element analysis*, Proc. IEEE, 72, pp. 80–84.
- [759] J. GLOUDEMAN, C. HENNICH, AND J. HODGE [1984]. *The evolution of MSC/NASTRAN and the supercomputer for enhanced performance*, in Kowalik [1111], pp. 393–402.
- [760] J. GLOUDEMAN AND J. HODGE [1982]. *The adaption of MSC/NASTRAN to a supercomputer*, Proc. 10th IMACS World Congress on Systems Simulation and Scientific Computation, vol. 1, IMACS, pp. 302–304.
- [761] R. GLOWINSKI, G. GOLUB, G. MEURANT, AND J. PERIAUX, eds. [1988]. *Proceedings of the First International Symposium on Domain Decomposition Methods for Partial Differential Equations*, Philadelphia, PA, Society for Industrial and Applied Mathematics.
- [762] R. GLOWINSKI AND M. WHEELER [1988]. *Domain decomposition and mixed finite element methods for elliptic problems*, in Glowinski et al. [761], pp. 144–172.
- [763] P. GNOFFO [1982]. *A vectorized, finite-volume, adaptive-grid algorithm for Navier-Stokes calculations*, Numerical Grid Generation, J. Thompson, ed., Elsevier Science Publishing Corp.
- [764] I. GOHBERG, T. KAILATH, I. KOLTRACHT, AND P. LANCASTER [1987]. *Linear complexity parallel algorithms for linear systems of equations with recursive structure*, Lin. Alg. & Appl., 88, pp. 271–316.
- [765] R. GOKE AND G. LIPOVSKI [1973]. *Banyan networks for partitioning on multiprocessor systems*, Proc. 1st Ann. Symp. Computer Arch., pp. 21–30.
- [766] M. GOLDMANN [1988]. *Vectorization of the multiple shooting method for the nonlinear boundary value problem in ordinary differential equations*, Parallel Computing, 7, pp. 97–110.
- [767] G. GOLUB AND D. MAYERS [1983]. *The use of preconditioning over irregular regions*, Proc. 6th Int. Conf. Computing Methods in Science and Engineering, Versailles, France.
- [768] G. GOLUB, R. PLEMMONS, AND A. SAMEH [1986]. *Parallel block schemes for large scale least*

- squares computations*, Tech. Report 574, Center for Supercomputing Research and Development, University of Illinois at Urbana-Champaign, April.
- [769] M. GONZALEZ [1977]. *Deterministic processor scheduling*, ACM Computing Surveys, 9, pp. 173–204.
- [770] R. GONZALEZ [1986]. *Domain Decomposition for Two-Dimensional Elliptic Operators on Vector and Parallel Machines*, PhD dissertation, Rice University.
- [771] R. GONZALEZ AND M. WHEELER [1987]. *Domain decomposition for elliptic partial differential equations with Neumann boundary conditions*, Parallel Computing, 5, pp. 257–263.
- [772] GOODYEAR AEROSPACE CORP. [1974]. *Application of STARAN to fast Fourier transforms*, Tech. Report GER-16109, Goodyear Aerospace Corp., May.
- [773] K. GOSTELOW AND R. THOMAS [1980]. *Performance of a simulated dataflow computer*, IEEE Trans. Comput., C-29, pp. 905–919.
- [774] A. GOTTLIEB [1984]. *Avoiding serial bottlenecks in ultraparallel MIMD computers*, Proc. COMPCON 84, IEEE Comp. Soc. Conf., pp. 354–359.
- [775] A. GOTTLIEB, R. GRISHMAN, C. KRUSKAL, K. MCAULIFFE, L. RUDOLPH, AND M. SNIR [1983]. *The NYU Ultracomputer — Designing an MIMD shared memory parallel computer*, IEEE Trans. Comput., C-32, pp. 175–189.
- [776] A. GOTTLIEB, B. LUBACHEVSKY, AND L. RUDOLPH [1983]. *Basic techniques for the efficient coordination of very large numbers of cooperating sequential processors*, ACM Trans. Program. Lang. Syst., 5, pp. 164–189.
- [777] A. GOTTLIEB AND J. SCHWARTZ [1982]. *Networks and algorithms for very-large-scale parallel computation*, Computer, 15(1), pp. 27–36.
- [778] D. GOTTLIEB AND R. HIRSH [1988]. *Parallel pseudospectral domain decomposition techniques*, Tech. Report 88-15, ICASE, NASA Langley Research Center, Hampton, VA.
- [779] D. GOTTLIEB, M. HUSSAINI, AND S. ORSZAG [1984]. *Theory and applications of spectral methods*, in Voigt et al. [1983], pp. 1–54.
- [780] G. GOUDREAU, R. BAILEY, J. HALLQUIST, R. MURRAY, AND S. SACKETT [1983]. *Efficient large-scale finite element computations in a Cray environment*, in Noor [1983], pp. 141–154.
- [781] W. GRAGG AND L. REICHEL [1987]. *A divide and conquer algorithm for the unitary eigenproblem*, in Heath [1987], pp. 639–650.
- [782] M. GRAHAM [1976]. *An Array Computer for the Class of Problems Typified by the General Circulation Model of the Atmosphere*, PhD dissertation, University of Illinois at Urbana-Champaign, Department of Computer Science.
- [783] R. GRAHAM [1969]. *Bounds on multiprocessing timing anomalies*, SIAM J. Appl. Math., 17, pp. 416–429.
- [784] R. GRAHAM, E. LAWLER, J. LENSTRA, AND A. RINNOOY KAN [1979]. *Optimization and approximation in deterministic sequencing and scheduling: A survey*, Ann. Discrete Math., 5, pp. 169–.
- [785] R. GRAVES [1973]. *Partial implicitization*, J. Comp. Phys., 13, pp. 439–444.
- [786] J. GRCAR AND A. SAMEH [1981]. *On certain parallel Toeplitz linear system solvers*, SIAM J. Sci. Statist. Comput., 2, pp. 238–256.
- [787] A. GREENBAUM [1986]. *A multigrid method for multiprocessors*, Appl. Math. & Comp., 19(1–4), pp. 75–88. (Special Issue, Proceedings of the Second Copper Mountain Conference on Multigrid Methods, Copper Mountain, CO, S. McCormick, ed.).
- [788] A. GREENBAUM [1986]. *Solving sparse triangular linear systems using Fortran with parallel extensions on the NYU Ultracomputer prototype*, Ultracomputer Note 99, New York University, April.
- [789] A. GREENBAUM [1986]. *Synchronization costs on multiprocessors*, Ultracomputer Note 98, New York University, April.
- [790] A. GREENBAUM AND G. RODRIGUE [1977]. *The incomplete Choleski conjugate gradient method for the STAR (5 point operator)*, Tech. Report, Lawrence Livermore National Lab-

- oratory.
- [791] A. GREENBERG, R. LADNER, M. PATERSON, AND Z. GALIL [1982]. *Efficient parallel algorithms for linear recurrence computation*, Info. Proc. Letters, 15, pp. 31–35.
 - [792] D. GREENSPAN [1988]. *Particle modeling of cavity flow on a vector computer*, Comput. Meth. Appl. Mech. Engrg., 66, pp. 291–300.
 - [793] J. GRIFFIN AND H. WASSERMAN [1985]. *Parallel debugging: A preliminary proposal*, Tech. Report LA-UR-85-3967, Los Alamos National Laboratory.
 - [794] R. GRIMES [1988]. *Solving systems of large dense linear equations*, J. Supercomputing, 1, pp. 291–300.
 - [795] R. GRIMES AND H. SIMON [1987]. *Dynamic analysis with the Lanczos algorithm on the SCS-40*, Tech. Report ETA-TR-43, Boeing Computer Services, January.
 - [796] R. GRIMES AND H. SIMON [1987]. *Solution of large dense symmetric generalized eigenvalue problems using secondary storage*, Tech. Report ETA-TR-53, Boeing Computer Services, May.
 - [797] D. GRIT AND J. McGRAW [1983]. *Programming divide and conquer on a multiprocessor*, Tech. Report UCRL-88710, Lawrence Livermore National Laboratory.
 - [798] W. GROPP [1986]. *Dynamic grid manipulation for PDE's on hypercube parallel processors*, Tech. Report YALEU/DCS/RR-458, Department of Computer Science, Yale University, March.
 - [799] W. GROPP [1987]. *Solving PDEs on loosely-coupled parallel processors*, Parallel Computing, 5, pp. 165–174.
 - [800] W. GROPP [1988]. *Local uniform mesh refinement on loosely-coupled parallel processors*, I. J. Comp. Math. Appl., 15, pp. 375–389.
 - [801] W. GROPP AND I. IPSEN [1988]. *Recursive mesh refinement on hypercubes*, Tech. Report RR-616, Department of Computer Science, Yale University.
 - [802] W. GROPP AND D. KEYES [1988]. *Complexity of parallel implementation of domain decomposition techniques for elliptic partial differential equations*, SIAM J. Sci. Statist. Comput., 9, pp. 312–327.
 - [803] W. GROPP AND E. SMITH [1987]. *Computational fluid dynamics on parallel processors*, Tech. Report YALEU/DCS/RR-570, Department of Computer Science, Yale University.
 - [804] C. GROSCH [1978]. *Poisson solvers on a large array computer*, Proc. 1978 LASL Workshop on Vector and Parallel Processors, pp. 98–132.
 - [805] C. GROSCH [1979]. *Performance analysis of Poisson solvers on array computers*, in Jesshope and Hockney [972], pp. 147–181.
 - [806] C. GROSCH [1979]. *Performance analysis of tridiagonal equation solvers on array computers*, Tech. Report TR 79-4, Department of Mathematical and Computing Sciences, Old Dominion University, Norfolk, VA.
 - [807] C. GROSCH [1980], *The effect of the data transfer pattern of an array computer on the efficiency of some algorithms for the tridiagonal and Poisson problems*. Presented at the Conference on Array Architectures for Computing in the 80's and 90's.
 - [808] C. GROSCH [1987]. *Adapting a Navier-Stokes code to the ICL-DAP*, SIAM J. Sci. Statist. Comput., 8, pp. s96–s117.
 - [809] D. GRUNWALD AND D. REED [1987]. *Benchmarking hypercube hardware and software*, in Heath [858], pp. 169–177.
 - [810] R. GUILILAND [1981]. *Solution of the shallow water equations on the sphere*, J. Comp. Phys., 43, pp. 79–94.
 - [811] A. GUPTA, B. MOSSBERG, G. POPE, AND K. SEPEHRNOORI [1985]. *Application of vector processors to chemical enhanced oil recovery simulation*, Tech. Report 85-5, Center for Enhanced Oil & Gas Recovery Research, University of Texas at Austin.
 - [812] D. GUPTA, G. POPE, AND K. SEPEHRNOORI [1986]. *Application of vector processors to chemical-enhanced oil recovery simulation*, Comm. Appl. Numer. Meth., 2, pp. 297–303.

- [813] J. GURD, C. KIRKHAM, AND I. WATSON [1985]. *The Manchester prototype dataflow computer*, Comm. ACM, 28, pp. 34–52.
- [814] J. GURD AND I. WATSON [1982]. *Preliminary evaluation of a prototype dataflow computer*, Proc. IFIP World Computer Congress, North-Holland, pp. 545–551.
- [815] J. GUSTAFSON [1986]. *Subdivision of PDE's on FPS scientific computers*, Comm. Appl. Numer. Meth., 2, pp. 305–310.
- [816] J. GUSTAFSON [1988]. *Reevaluating Amdahl's law*, Comm. ACM., 31, pp. 532–533.
- [817] J. GUSTAFSON, S. HAWKINSON, AND K. SCOTT [1986]. *The architecture of a homogeneous vector supercomputer*, Proc. 1986 Int. Conf. Par. Proc., pp. 649–652.
- [818] J. GUSTAFSON, G. MONTRY, AND R. BENNER [1988]. *Development of parallel methods for a 1024-processor hypercube*, SIAM J. Sci. Statist. Comput., 9, pp. 609–638.
- [819] J. HACK [1986]. *Peak vs. sustained performance in highly concurrent vector machines*, Computer, 19(9), pp. 11–19.
- [820] W. HACKBUSCH [1978]. *On the multigrid method applied to difference equations*, Computing, 20, pp. 291–306.
- [821] W. HACKBUSCH AND U. TROTTERBERG, eds. [1982]. *Multigrid Methods*, Springer-Verlag, Berlin.
- [822] M. HAFEZ AND D. LOVELL [1983]. *Improved relaxation schemes for transonic potential calculations*, Paper 83-0372, AIAA.
- [823] M. HAFEZ AND E. MURMAN [1978]. *Artificial compressibility methods for numerical solution of transonic full potential equation*, AIAA 11th Fluid and Plasma Dynamics Conference, Seattle, WA.
- [824] M. HAFEZ AND J. SOUTH [1979]. *Vectorization of relaxation methods for solving transonic full potential equations*, Flow Research Report, Flow Research, Inc., Kent, WA.
- [825] B. HAILPERN [1982]. *Concurrent processing*, Tech. Report RC 9582 (42314), IBM, San Jose, CA, September.
- [826] L. HALADA [1980]. *A parallel algorithm for solving band systems of linear equations*, Proc. 1980 Int. Conf. Par. Proc., pp. 159–160.
- [827] L. HALADA [1981]. *A parallel algorithm for solving band systems and matrix inversion*, CON-PAR 81, Conf. Proc., Lecture Notes in Computer Science III, W. Händler, ed., Springer-Verlag, pp. 433–440.
- [828] L. HALCOMB AND D. DIESTLER [1986]. *Integration of a large set of coupled differential equations on the Cyber 205 vector processor*, Comput. Phys. Comm., 39, pp. 27–36.
- [829] H. HALIN, R. BUHRER, W. HALG, H. BENZ, B. BRON, H. BRUNDIERS, A. ISACCSION, AND M. TADIAN [1980]. *The ETHM multiprocessor project: Parallel simulation of continuous system*, Simulation, 35, pp. 109–123.
- [830] S.-P. HAN AND G. LOU [1988]. *A parallel algorithm for a class of convex programs*, SIAM J. Control Optim., 26, pp. 345–355.
- [831] W. HÄNDLER, E. HOFMANN, AND H. SCHNEIDER [1976]. *A general purpose array with a broad spectrum of applications*, Informatik-Fachberichte, Springer-Verlag, Berlin-Heidelberg.
- [832] W. HÄNDLER, E. MAEHELE, AND K. WIRL [1985]. *DIRMU multiprocessor configurations*, Proc. 1985 Int. Conf. Par. Proc., pp. 652–656.
- [833] W. HANKEY AND J. SHANG [1982]. *Vector processors and CFD*, in Cray Research, Inc. [423], pp. 49–66.
- [834] H. HAPP, C. POTTE, AND K. WIRGAN [1978]. *Parallel processing for large scale transient stability*, Proc. IEEE Can. Conf. Comm. Power, pp. 204–207.
- [835] A. HARDING AND J. CARLING [1984]. *The three-dimensional solution of the equations of flow and heat transfer in glass-melting tank furnaces: Adapting to the DAP*, in Paddon [1505], pp. 115–133.
- [836] U. HARMS AND H. LUTTERMAN [1988]. *Experiences in benchmarking the three supercomputers CRAY-1M, CRAY-X/MP, Fujitsu VP-200 compared with the CYBER 76*, Parallel

- Computing, 6, pp. 373–382.
- [837] D. HARPER AND J. JUMP [1987]. *Vector access performance in parallel memories using a skewed storage scheme*, IEEE Trans. Comput., C-36, pp. 1440–1449.
 - [838] D. HARRAR AND J. ORTEGA [1988]. *Solution of three-dimensional generalized Poisson equations on vector computers*, Tech. Report RM-88-17, The University of Virginia, October.
 - [839] L. HART [1988]. *Asynchronous adaptive methods on parallel computers*, in McCormick [1306].
 - [840] L. HART, S. MCCORMICK, A. O'GALLAGHER, AND J. THOMAS [1986]. *The Fast Adaptive Composite-grid method (FAC): Algorithms for advanced computers*, Appl. Math. & Comp., 19(1-4), pp. 103–126. (Special Issue, Proceedings of the Second Copper Mountain Conference on Multigrid Methods, Copper Mountain, CO, S. McCormick, ed.).
 - [841] M. HATZOPoulos [1982]. *Parallel linear system solvers for tridiagonal matrices*, in Evans [589], pp. 389–394.
 - [842] M. HATZOPoulos [1983]. *A symmetric parallel linear system solver*, Int. J. Comput. Math., 13, pp. 133–141.
 - [843] M. HATZOPoulos AND D. EVANS [1988]. *Comments on the paper “A short proof of the existence of the W-Z factorization”*, Parallel Computing, 6, p. 259.
 - [844] M. HATZOPoulos AND N. MISSIRLIS [1985]. *Advantages for solving linear systems in an asynchronous environment*, J. Comput. Appl. Math., 12/13, pp. 331–340.
 - [845] R. HAY AND I. GLADWELL [1985]. *Solving almost block diagonal linear equations on the CDC Cyber 205*, Numerical Analysis Report 98, University of Manchester, January.
 - [846] J. HAYES, T. MUDGE, Q. STOUT, S. COLLEY, AND J. PALMER [1986]. *Architecture of a hypercube supercomputer*, Proc. 1986 Int. Conf. Par. Proc., pp. 653–660.
 - [847] L. HAYES [1974]. *Comparative analysis of iterative techniques for solving Laplace's equation on the unit square on a parallel processor*, Master's thesis, University of Texas at Austin, Department of Mathematics.
 - [848] L. HAYES [1984]. *Alternating Direction method on vector processors*, NASA/NSF Workshop on Parallel Computation in Heat Transfer and Fluid Flow, University of Maryland, November.
 - [849] L. HAYES [1985]. *A vectorized matrix vector multiply and overlapping block iterative method*, in Numrich [1462], pp. 91–100.
 - [850] L. HAYES AND P. DEVLOO [1984]. *An overlapping block iterative scheme for finite element methods*, Tech. Report, Department of Aerospace Engineering and Engineering Mechanics, University of Texas at Austin.
 - [851] L. HAYES AND P. DEVLOO [1986]. *A vectorized version of a sparse matrix-vector multiply*, Int. J. Num. Met. Eng., 23, pp. 1043–56.
 - [852] L. HAYNES, R. LAU, D. SIEWIORKA, AND D. MIZELL [1982]. *A survey of highly parallel computing*, Computer, 15(1), pp. 9–24.
 - [853] M. HEAD-GORDON AND P. PIELA [1986]. *Parallel algorithms for solving linear equations using Givens transformations*, Int. J. Comput. Math., 12A, pp. 987–990.
 - [854] L. HEATH, A. ROSENBERG, AND B. SMITH [1988]. *The physical mapping problem for parallel architectures*, J. ACM, 35, pp. 603–634.
 - [855] M. HEATH [1985]. *Parallel Cholesky factorization in message-passing multiprocessor environments*, Tech. Report ORNL-6150, Oak Ridge National Laboratory, May.
 - [856] M. HEATH, ed. [1986]. *Hypercube Multiprocessors, 1986*, Philadelphia, PA, Society for Industrial and Applied Mathematics.
 - [857] M. HEATH [1987]. *Hypercube applications at Oak Ridge National Laboratory*, in Heath [858], pp. 395–417.
 - [858] M. HEATH, ed. [1987]. *Hypercube Multiprocessors, 1987*, Philadelphia, Society for Industrial and Applied Mathematics.
 - [859] M. HEATH AND C. ROMINE [1988]. *Parallel solution of triangular systems on distributed-memory multiprocessors*, SIAM J. Sci. Statist. Comput., 9, pp. 558–588.
 - [860] M. HEATH AND D. SORENSEN [1986]. *A pipelined Givens method for computing the QR fac-*

- torization of a sparse matrix*, Lin. Alg. & Appl., 77, pp. 189–203.
- [861] D. HELLER [1974]. *A determinant theorem with applications to parallel algorithms*, SIAM J. Numer. Anal., 11, pp. 559–568.
- [862] D. HELLER [1976]. *Some aspects of the cyclic reduction algorithm for block tridiagonal linear systems*, SIAM J. Numer. Anal., 13, pp. 484–496.
- [863] D. HELLER [1978]. *A survey of parallel algorithms in numerical linear algebra*, SIAM Rev., 20, pp. 740–777.
- [864] D. HELLER AND I. IPSEN [1982]. *Systolic network for orthogonal equivalence transformations and their application*, Proc. Conference on Advanced Research in VLSI, Cambridge, MIT Press, pp. 113–122.
- [865] D. HELLER AND I. IPSEN [1983]. *Systolic networks for orthogonal decompositions*, SIAM J. Sci. Statist. Comput., 4, pp. 261–269.
- [866] D. HELLER, D. STEVENSON, AND J. TRAUB [1976]. *Accelerated iterative methods for the solution of tridiagonal linear systems on parallel computers*, J. ACM, 23, pp. 636–654.
- [867] R. HELLIER [1982]. *DAP implementation of the WZ algorithm*, Comput. Phys. Comm., 26, pp. 321–323.
- [868] P. HEMKER [1984]. *Performance of multigrid software on vector machines*, Supercomputer.
- [869] P. HEMKER, R. KETTLER, P. WESSELING, AND P. DE ZEEUW [1983]. *Multigrid methods: Development of fast solvers*, Appl. Math. & Comp., 13(3-4), pp. 311–326. (Special Issue, Proceedings of the First Copper Mountain Conference on Multigrid Methods, Copper Mountain, CO, S. McCormick and U. Trottenberg, eds.).
- [870] P. HEMKER, P. WESSELING, AND P. DE ZEEUW [1984]. *A portable vector code for autonomous multigrid modules*, PDE Software: Modules, Interfaces and Systems, B. Engquist and T. Smetsaas, eds., North-Holland, Amsterdam, pp. 29–40.
- [871] R. HEMPEL [1988]. *Parallel multigrid algorithms for the biharmonic and the Stokes equations, implementation and performance*, in McCormick [1306].
- [872] R. HEMPEL [1988]. *The Suprenum communications subroutine library for grid-oriented problems*, Tech. Report ANL-87-23, Argonne National Laboratory.
- [873] J. HENDRY AND L. DELVES [1984]. *GEM calculations on the DAP*, in Paddon [1505], pp. 185–194.
- [874] C. HENKEL, M. HEATH, AND R. PLEMMONS [1988]. *Cholesky downdating on a hypercube*, Proc. Third Conf. Hypercube Concurrent Comput. Appl., G. Fox, ed., New York, Association for Computing Machinery, pp. 1592–1598.
- [875] L. HERTZBERGER, D. GOSMAN, G. KIEFT, G. POR, M. SCHOOREL, AND L. WIGGERS [1981]. *FAMP system*, Comput. Phys. Comm., 22, pp. 253–260.
- [876] P. HIBBARD AND N. OSTLUND [1980]. *Numerical computation on Cm**, Proc. 1980 Int. Conf. Par. Proc., pp. 135–136.
- [877] L. HIGBIE [1978]. *Speeding up FORTRAN (CFT) programs on the CRAY-1*, Pub. 2240207, CRAY Research Inc.
- [878] W. HILLIS [1985], *The Connection Machine*, MIT Press, New Haven, CT.
- [879] R. HINTZ AND D. TOTE [1972]. *Control Data STAR-100 processor design*, Proc. COMPCON 72, IEEE Comp. Soc. Conf., pp. 1–4.
- [880] K. HIRAKI, T. SHIMADA, AND K. NISHIDA [1984]. *A hardware design of the SIGMA-1, a data flow computer for scientific computations*, Proc. 1984 Int. Conf. Par. Proc., pp. 524–531.
- [881] R. HIROMOTO [1984]. *Experiences with the Denelcor HEP*, Parallel Computing, 1, pp. 197–206.
- [882] R. HIROMOTO [1985]. *Parallel processing a plasma simulation problem using the particle-in-cell method*, Tech. Report LA-UR-85-2393, Los Alamos National Laboratory.
- [883] C.-T. HO AND L. JOHNSSON [1986]. *Distributed routing algorithm for broadcasting and personalized communication in hypercubes*, Proc. 1986 Int. Conf. Par. Proc., pp. 640–648.

- [884] C.-T. HO AND L. JOHNSSON [1987]. *Algorithms for matrix transposition on Boolean n-cube configured ensemble architectures*, Proc. 1987 Int. Conf. Par. Proc., pp. 621–629.
- [885] C.-T. HO AND L. JOHNSSON [1987]. *On the embedding of arbitrary meshes in Boolean cubes with expansion two dilation two*, Proc. 1987 Int. Conf. Par. Proc., pp. 188–191.
- [886] L. HOBBS, D. THEIS, J. TRIMBLE, H. TITUS, AND D. HIGHBERG [1970], *Parallel Processor Systems: Technologies and Applications*, Spartan Books.
- [887] R. HOCKNEY [1965]. *A fast direct solution of Poisson's equation using Fourier analysis*, J. ACM, 12, pp. 95–113.
- [888] R. HOCKNEY [1977]. *Super-computer architecture*, Proc. Infotech State of the Art Conf. on Future Systems.
- [889] R. HOCKNEY [1979]. *The large parallel computer and university research*, Cont. Phys., 20, pp. 149–185.
- [890] R. HOCKNEY [1982]. *Characterization of parallel computers and algorithms*, Comput. Phys. Comm., 26, pp. 285–291.
- [891] R. HOCKNEY [1982]. *Optimizing the FACR (l) Poisson solver on parallel computers*, Proc. 1982 Int. Conf. Par. Proc., pp. 62–71.
- [892] R. HOCKNEY [1982]. *Poisson solving on parallel computers*. Presented at the IBM Symposium on Vector Computers and Scientific Computing, Rome.
- [893] R. HOCKNEY [1983]. *Characterization of parallel computers*, Proceedings of World Congress on System Simulation and Scientific Computation, International Association for Mathematics and Computers in Simulation, vol. 1, pp. 269–271.
- [894] R. HOCKNEY [1983]. *Characterizing computers and optimizing the FACR (l) Poisson solver on parallel unicomputers*, IEEE Trans. Comput., C-32, pp. 933–941.
- [895] R. HOCKNEY [1984]. *The $n_{1/2}$ method of algorithm analysis*, PDE Software: Modules, Interfaces and Systems, B. Engquist and T. Smedsaas, eds., Elsevier, pp. 429–444.
- [896] R. HOCKNEY [1984]. *Optimizing the FACR (l) Poisson-solver on parallel computers*, in Paddon [1505], pp. 45–65.
- [897] R. HOCKNEY [1984]. *Performance of parallel computers*, in Kowalik [1111], pp. 159–176.
- [898] R. HOCKNEY [1985]. *MIMD computing in the USA — 1984*, Parallel Computing, 2, pp. 119–136.
- [899] R. HOCKNEY [1985]. *Performance characterization of the HEP*, in Parallel MIMD Computation: HEP Supercomputer and Its Applications [1112], pp. 59–90.
- [900] R. HOCKNEY [1985]. *$(r_\infty, n_{1/2}, s_{1/2})$ measurements on the 2-CPU CRAY X-MP*, Parallel Computing, 2, pp. 1–14.
- [901] R. HOCKNEY [1987]. *Parametrization of computer performance*, Parallel Computing, 5, pp. 97–104.
- [902] R. HOCKNEY AND C. JESSHOPE [1981], *Parallel Computers: Architecture, Programming and Algorithms*, Adam Hilger, Ltd., Bristol, United Kingdom.
- [903] R. HOCKNEY AND D. SNELLING [1984]. *Characterizing MIMD computers, e.g., the Denelcor HEP*, in Feilmeier et al. [623], pp. 521–526.
- [904] C. HOHEISEL, M. SCHOEN, AND R. VOGELSANG [1984]. *Vectorized computation of correlation functions from phase space trajectories generated by molecular dynamic calculations*, Comput. Phys. Comm., 34, pp. 9–14.
- [905] J. HOLLAND [1959]. *A universal computer capable of executing an arbitrary number of sub-programs simultaneously*, Proc. European Joint Comp. Conf., pp. 108–113.
- [906] R. HOLT, G. GRAHAM, E. LAZOWSKA, AND M. SCOTT [1978], *Structured Concurrent Programming*, Addison-Wesley, Reading, MA.
- [907] B. HOLTER [1988]. *Vectorized multigrid solvers for the two-dimensional diffusion equation*, in McCormick [1306].
- [908] W. HOLTER [1986]. *A vectorized multigrid solver for the three-dimensional Poisson equation*, Appl. Math. & Comp., 19(1-4), pp. 127–144. (Special Issue, Proceedings of the Second Cop-

- per Mountain Conference on Multigrid Methods, Copper Mountain, CO, S. McCormick, ed.).
- [909] H.-C. HOPPE AND H. MUHLENBEIN [1986]. *Parallel adaptive full-multigrid methods on message-based multiprocessors*, Parallel Computing, 3, pp. 269–288.
 - [910] R. HORD [1982], *The Illiac IV: The First Supercomputer*, Computer Science Press.
 - [911] S. HORIGUCHI, Y. KAWAZOE, AND H. NARA [1984]. *A parallel algorithm for the integration of ordinary differential equations*, Proc. 1984 Int. Conf. Par. Proc., pp. 465–469.
 - [912] E. HOROWITZ [1986]. *Particle codes and the Cray-2*, Tech. Report UCRL-95055, Lawrence Livermore National Laboratory.
 - [913] E. HOROWITZ [1987]. *Vectorizing the interpolation routines of particle-in-cell codes*, J. Comp. Phys. To appear.
 - [914] T. HOSHINO, R. HIROMOTO, S. SEKIGUCHI, AND S. MAJIMA [1987]. *Mapping schemes of the particle-in-cell method implemented on the PAX computer*, Tech. Report LA-UR-87-2879, Los Alamos National Laboratory.
 - [915] T. HOSHINO, T. KAMIMURA, T. IIDA, AND T. SHIRAKAWA [1985]. *Parallelized ADI scheme using GECR (Gauss-Elimination-Cyclic Reduction) method and implementation of Navier-Stokes equation on the PAX computer*, Proc. 1985 Int. Conf. Par. Proc., pp. 426–433.
 - [916] T. HOSHINO, T. KAWAI, T. SHIRAKAWA, J. HIGASHINO, A. YAMAOKA, H. ITO, T. SATO, AND K. SAWADA [1983]. *PACS: A parallel microprocessor array for scientific calculations*, ACM Trans. on Comp. Sys., 1, pp. 195–221.
 - [917] T. HOSHINO, S. MAJIMA, K. TAKENOUCHI, AND Y. OYANAGI [1984]. *Monte Carlo simulation of a spin model on the parallel computer PAX*, Comput. Phys. Comm., 34, pp. 31–38.
 - [918] T. HOSHINO, T. SHIRAKAWA, T. KAMIMURA, T. KAGEYAMA, K. TAKENOUCHI, H. ABE, S. SEKIGUCHI, Y. OYANAGI, AND K. TOSHIO [1983]. *Highly parallel procesor array “PAX” for wide scientific applications*, Proc. 1983 Int. Conf. Par. Proc., pp. 95–105.
 - [919] T. HOSHINO AND K. TAKENOUCHI [1984]. *Processing of the molecular dynamic model by the parallel computer PAX*, Comput. Phys. Comm., 31, pp. 287–296.
 - [920] S. HOTOVY AND L. DICKSON [1979]. *Evaluation of a vectorizable 2-D transonic finite difference algorithm*, Paper 79-0276, AIAA.
 - [921] E. HOUSORS AND O. WING [1984]. *Pseudo-conjugate directions for the solution of the nonlinear unconstrained optimization problem on a parallel computer*, J. Optimization Theory and Applications, 42, pp. 169–180.
 - [922] C. HOUSTIS, E. HOUSTIS, AND J. RICE [1984]. *Partitioning and allocation of PDE computations in distributed systems*, PDE Software: Modules, Interfaces and Systems, B. Engquist and T. Smedsaas, eds., North-Holland, Amsterdam, pp. 67–87.
 - [923] C. HOUSTIS, E. HOUSTIS, AND J. RICE [1986]. *Performance evaluation models for distributed computing*, Tech. Report CSD-TR-576, Department of Computer Science, Purdue University, January.
 - [924] C. HOUSTIS, E. HOUSTIS, AND J. RICE [1987]. *Partitioning PDE computations: Methods and performance evaluation*, Parallel Computing, 5, pp. 141–164.
 - [925] C. HOUSTIS, E. HOUSTIS, J. RICE, AND M. SAMARTZIS [1987]. *Benchmarking of bus multiprocessor hardware on large scale scientific computing*, in Vichnevetsky and Stepleman [1909].
 - [926] E. HOUSTIS, J. RICE, AND E. VAVALIS [1987]. *Parallelization of a new class of cubic spline collocation methods*, in Vichnevetsky and Stepleman [1909], pp. 167–174.
 - [927] E. HOUSTIS, J. RICE, AND E. VAVALIS [1988]. *A Schwartz splitting variant of cubic spline collocation methods for elliptic PDEs*, Tech. Report CSD-TR-745, Department of Computer Science, Purdue University.
 - [928] T. HU [1961]. *Parallel sequencing and assembly line problem*, Oper. Res., 9, pp. 841–848.
 - [929] H.-M. HUANG [1974]. *A parallel algorithm for symmetric tridiagonal eigenvalue problems*, Tech. Report 109, Center for Advanced Computation, University of Illinois at Urbana-

- Champaign, February.
- [930] J. HUANG AND O. WING [1978]. *On minimum completion time and optimal scheduling of parallel triangulation of a sparse matrix*, IEEE Power Engineering Society Summer Meeting, Los Angeles, Institute of Electrical and Electronics Engineers, Inc. (IEEE Pes Abstract No. A78-567-0).
 - [931] J. HUANG AND O. WING [1979]. *Optimal parallel triangulation of a sparse matrix*, IEEE Trans. Circuits and Syst., CAS-26, pp. 726-732.
 - [932] K. HUANG AND J. ABRAHAM [1982]. *Efficient parallel algorithms for processor arrays*, Proc. 1982 Int. Conf. Par. Proc., pp. 271-279.
 - [933] K. HUANG AND J. ABRAHAM [1984]. *Fault-tolerant algorithms and their application to solving Laplace equations*, Proc. 1984 Int. Conf. Par. Proc., pp. 117-122.
 - [934] R. HUFF, J. DAWSON, AND G. CULLER [1982]. *Plasma physics on an array processor*, in Rodriguez [1636], pp. 365-396.
 - [935] T. HUGHES AND R. FERENCZ [1988]. *Fully vectorized EBE preconditioners for nonlinear solid mechanics: Applications to large-scale three-dimensional continuum, shell and contact/impact problems*, in Glowinski et al. [761], pp. 261-280.
 - [936] T. HUGHES, R. FERENCZ, AND J. HALLQUIST [1987]. *Large scale vectorized implicit calculations in solid mechanics on a CRAY-X-MP/48 utilizing EBE preconditioned conjugate gradient*, Comput. Meth. Appl. Mech. Engrg., 61, pp. 215-248.
 - [937] D. HUNT [1979]. *Application techniques for parallel hardware*, in Jesshope and Hockney [972], pp. 205-219.
 - [938] D. HUNT, S. WEBB, AND A. WILSON [1981]. *Applications of a parallel processor to the solution of finite difference problems*, in Schultz [1742], pp. 339-344.
 - [939] C. HUSON, T. MACKE, J. DAVIES, M. WOLFE, AND B. LEASURE [1986]. *The KAP/205: An advanced source-to-source vectorizer for the Cyber 205 supercomputer*, Proc. 1986 Int. Conf. Par. Proc., pp. 827-835.
 - [940] K. HWANG [1982]. *Partitioned matrix algorithms for VLSI arithmetic systems*, IEEE Trans. Comput., C-31, pp. 1215-1224.
 - [941] K. HWANG [1984]. *Computer Architecture and Parallel Computing*, McGraw Hill, New York, NY.
 - [942] K. HWANG [1985]. *Multiprocessor supercomputers for scientific/engineering applications*, Computer, 18(6), pp. 57-73.
 - [943] K. HWANG AND F. BRIGGS [1984]. *Computer Architecture and Parallel Processing*, McGraw Hill, New York, NY.
 - [944] K. HWANG AND Y.-H. CHENG [1980]. *VLSI computing structures for solving large scale linear systems of equations*, Proc. 1980 Int. Conf. Par. Proc., pp. 217-227.
 - [945] K. HWANG AND J. GHOSH [1987]. *Hypernet: A communication-efficient architecture for constructing massively parallel computers*, IEEE Trans. Comput., C-36, pp. 1450-1466.
 - [946] K. HWANG, S. JACOBS, AND E. SWARTZLANDER, eds. [1986]. *Parallel Processing*, North-Holland.
 - [947] K. HWANG, S. SU, AND L. NI [1981]. *Vector computer architecture and processing techniques*, Advances in Computers, 20, pp. 115-197.
 - [948] K. HWANG AND Z. XU [1985]. *Remps: A reconfigurable multiprocessor for scientific supercomputing*, Proc. 1985 Int. Conf. Par. Proc., pp. 102-111.
 - [949] L. HYAFIL AND H. KUNG [1974]. *Parallel algorithms for solving triangular linear systems with small parallelism*, Tech. Report, Department of Computer Science, Carnegie-Mellon University.
 - [950] L. HYAFIL AND H. KUNG [1975]. *Bounds on the speed-ups of parallel evaluation of recurrences*, Proc. Second USA — Japan Comp. Conf., pp. 178-182.
 - [951] L. HYAFIL AND H. KUNG [1977]. *The complexity of parallel evaluation of linear recurrences*, J. ACM, 24, pp. 513-521.

- [952] M. INOUYE, ed. [1977]. *Future Computer Requirements for Computational Aerodynamics, Workshop at NASA-Ames, Conf. Publ. No. 2032.*
- [953] I. IPSEN [1984]. *A parallel QR method using fast Givens' rotations*, Tech. Report YALEU/DCS/RR-299, Department of Computer Science, Yale University.
- [954] I. IPSEN [1984]. *Singular value decomposition with systolic arrays*, Proc. Soc. Photo-Optical Eng., Bellingham, WA.
- [955] I. IPSEN [1987]. *Systolic algorithms for the parallel solution of dense symmetric positive-definite Toeplitz systems*, Tech. Report YALEU/DCS/RR-539, Department of Computer Science, Yale University, May.
- [956] I. IPSEN AND E. JESSUP [1987]. *Solving the symmetric tridiagonal eigenvalue problem on the hypercube*, Tech. Report YALEU/DCS/RR-548, Department of Computer Science, Yale University.
- [957] I. IPSEN AND E. JESSUP [1987]. *Two methods for solving the symmetric tridiagonal eigenvalue problem on the hypercube*, in Heath [858], pp. 627-638.
- [958] I. IPSEN AND Y. SAAD [1985]. *The impact of parallel architectures on the solution of eigenvalue problems*, Tech. Report YALEU/DCS/RR-444, Department of Computer Science, Yale University, December.
- [959] I. IPSEN, Y. SAAD, AND M. SCHULTZ [1986]. *Complexity of dense linear system solution on a multiprocessor ring*, Lin. Alg. & Appl., 77, pp. 205-239.
- [960] M. IQBAL, J. SALTZ, AND S. BOKHARI [1986]. *A comparative analysis of static and dynamic load balancing strategies*, Proc. 1986 Int. Conf. Par. Proc., pp. 1040-1047.
- [961] M. ISHIGURO AND Y. KOSHI [1982]. *Vectorization for solving the neutron diffusion equations — Some numerical experiments*, Nuc. Sci. Eng., 80, pp. 322-328.
- [962] W. JALBY AND U. MEIER [1986]. *Optimizing matrix operations on a parallel multiprocessor with a memory hierarchy*, Tech. Report 555, Center for Supercomputing Research and Development, University of Illinois at Urbana-Champaign, February.
- [963] W. JALBY, U. MEIER, AND A. SAMEH [1986]. *The behaviour of conjugate gradient based algorithms on a multi-vector processor with a memory hierarchy*, Tech. Report 607, Center for Supercomputing Research and Development, University of Illinois at Urbana-Champaign, November.
- [964] L. JAMIESON, D. GANNON, AND R. DOUGLAS, eds. [1987]. *The Characteristics of Parallel Algorithms*, MIT Press.
- [965] L. JAMIESON, P. MUELLER, AND H. SIEGEL [1986]. *FFT algorithms for SIMD parallel processing systems*, J. Par. Dist. Comp., 3, pp. 48-71.
- [966] D. JAYASIMHA AND M. LOUI [1987]. *The communication complexity of parallel algorithms*, Tech. Report 629, Center for Supercomputing Research and Development, University of Illinois at Urbana-Champaign.
- [967] J. JESS AND H. KEEES [1982]. *A data structure for parallel L/U decomposition*, IEEE Trans. Comput., C-31, pp. 231-239.
- [968] C. JESSHOPE [1977]. *Evaluation of Illiac: Overlap, non-overlap*, Institute for Advanced Computation Newsletter, 1, pp. 4-5.
- [969] C. JESSHOPE [1980]. *The implementation of the fast radix 2 transforms on array processors*, IEEE Trans. Comput., C-29, pp. 20-27.
- [970] C. JESSHOPE [1980]. *Some results concerning data routing in array processors*, IEEE Trans. Comput., C-29, pp. 659-662.
- [971] C. JESSHOPE AND J. CRAIGIE [1979]. *Some principles of parallelism in particle and mesh modeling*, in Jesshope and Hockney [972], pp. 221-236.
- [972] C. JESSHOPE AND R. HOCKNEY, eds. [1979]. *Infotech State of the Art Report: Supercomputers, vol. 1 & 2*, Maidenhead: Infotech Int. Ltd.
- [973] S. JIANGPING AND K. LISHAN [1987]. *An asynchronous parallel mixed algorithm for linear and nonlinear equations*, Parallel Computing, 5, pp. 313-321.

- [974] G. JOHNSON [1987]. *Parallel processing in fluid dynamics*, Tech. Report 87003, Institute for Scientific Computing, Fort Collins, CO.
- [975] G. JOHNSON AND J. SWISSELM [1988]. *Multigrid for parallel-processing supercomputers*, in McCormick [1306].
- [976] G. JOHNSON, J. SWISSELM, AND S. KUMAR [1985]. *Concurrent processing adaptation of a multiple-grid algorithm*, AIAA J.
- [977] G. JOHNSON, J. SWISSELM, D. PRYOR, AND J. ZIEBARTH [1986]. *Multitasked embedded multigrid for three-dimensional flow simulation*, Lecture Notes in Physics, vol. 264, Springer-Verlag, Berlin, pp. 350–356.
- [978] J. JOHNSON [1983]. *ETA leaves home*, Datamation, 29(10), pp. 74–86.
- [979] O. JOHNSON [1981]. *Vector function chainer software for banded preconditioned conjugate gradient calculations*, Advances in Computer Methods for Partial Differential Equations - IX, Proc. 10th IMACS World Congress on Systems Simulation and Scientific Computation, vol. 1, IMACS, pp. 243–245.
- [980] O. JOHNSON [1984]. *Three-dimensional wave equation computations on vector computers*, Proc. IEEE, 72, pp. 90–95.
- [981] O. JOHNSON AND M. EDWARDS [1981]. *Progress on the 3D wave equation program for the CDC Cyber 205*, Fourth year Semi-Annual Prog. Rep. vol. 7, Seismic Acoustics Lab.
- [982] O. JOHNSON AND M. LEWITT [1982]. *PPCG software for the CDC CYBER 205*, in Control Data Corporation [411].
- [983] O. JOHNSON, C. MICCHELLI, AND G. PAUL [1983]. *Polynomial preconditioners for conjugate gradient calculations*, SIAM J. Numer. Anal., 20, pp. 362–376.
- [984] O. JOHNSON AND G. PAUL [1981]. *Optimal parametrized incomplete inverse preconditioning for conjugate gradient calculations*, Tech. Report RC-8644, IBM, Yorktown Heights, NY.
- [985] O. JOHNSON AND G. PAUL [1981]. *Vector algorithms for elliptic partial differential equations based on the Jacobi method*, in Schultz [1742], pp. 345–351.
- [986] L. JOHNSSON [1981]. *Computational arrays for band matrix equations*, Tech. Report 4287:TR:81, Department of Computer Science, California Institute of Technology, May.
- [987] L. JOHNSSON [1982]. *A computational array for the QR-method*, Proc. MIT Conf. on Advanced Res. in VLSI, P. Penfield, ed., Artech House, pp. 123–129.
- [988] L. JOHNSSON [1982]. *Pipelined linear equation solvers and VLSI*, Proc. Microelectronics 1982, Australia, May, Institution of Electrical Engineers, pp. 42–46.
- [989] L. JOHNSSON [1984]. *Highly concurrent algorithms for solving linear systems of equations*, in Birkhoff and Schoenstadt [173], pp. 105–126.
- [990] L. JOHNSSON [1984]. *Odd-even cyclic reduction on ensemble architectures and the solution of tridiagonal systems of equations*, Tech. Report YALEU/DCS/RR-339, Department of Computer Science, Yale University.
- [991] L. JOHNSSON [1985]. *Band matrix systems solvers on ensemble architectures*, Algorithms, Architectures and the Future of Scientific Computation, University of Texas Press, Austin, TX.
- [992] L. JOHNSSON [1985]. *Cyclic reduction on a binary tree*, Comput. Phys. Comm., 37, pp. 195–203.
- [993] L. JOHNSSON [1985]. *Data permutations and basic linear algebra computations on ensemble architectures*, Tech. Report YALEU/DCS/RR-367, Department of Computer Science, Yale University, February.
- [994] L. JOHNSSON [1985]. *Solving narrow banded systems on ensemble architectures*, ACM Trans. Math. Softw., 11, pp. 271–288.
- [995] L. JOHNSSON [1986]. *Band matrix systems solvers on ensemble architecture*, Supercomputers, F. Matsen and T. Tajima, eds., University of Texas Press, pp. 195–216.
- [996] L. JOHNSSON [1987]. *Communication efficient basic linear algebra computations on hypercube architectures*, J. Par. Dist. Comp., 4, pp. 133–172.

- [997] L. JOHNSSON [1987]. *Solving tridiagonal systems on ensemble architectures*, SIAM J. Sci. Statist. Comput., 8, pp. 354–392.
- [998] L. JOHNSSON [1988]. *Algorithms for matrix transposition on Boolean N-cube configured ensemble architectures*, SIAM J. Matrix Anal. Appl., 9, pp. 419–454.
- [999] L. JOHNSSON AND C.-T. HO [1987]. *Multiple tridiagonal systems, the Alternating Direction methods and Boolean cube configured multiprocessors*, Tech. Report YALEU/DCS/TR-532, Department of Computer Science, Yale University, June.
- [1000] L. JOHNSSON, C.-T. HO, AND F. SAIED [1986]. *Solving multiple tridiagonal systems, the Alternating Direction method, and Boolean cube configured multiprocessors*, Tech. Report YALEU/DCS/RR-552, Department of Computer Science, Yale University.
- [1001] L. JOHNSSON, C.-T. HO, AND F. SAIED [1987]. *Fast linear algebra routines on hypercubes*, Parallel Processing and Medium Scale Multiprocessors, A. Wouk, ed., Society for Industrial and Applied Mathematics. To appear.
- [1002] L. JOHNSSON, Y. SAAD, AND M. SCHULTZ [1987]. *Alternating Direction methods on multiprocessors*, SIAM J. Sci. Statist. Comput., 8, pp. 686–700.
- [1003] A. JONES, R. CHANSLER, I. DURHAM, P. FEILER, D. SCELZA, K. SCHWANS, AND S. VEGDAHL [1978]. *Programming issues raised by a multi-microprocessor*, Proc. IEEE, 66(2), pp. 229–237.
- [1004] A. JONES AND E. GEHRINGER, eds. [1980]. *The Cm* multiprocessor project: A research review*, Tech. Report CMU-CS-80-131, Department of Computer Science, Carnegie-Mellon University.
- [1005] A. JONES AND P. SCHWARTZ [1980]. *Experience using multiprocessor systems: A status report*, ACM Computing Surveys, 12, pp. 121–165.
- [1006] H. JORDAN [1978]. *The Finite Element Machine programmer's reference manual*, Tech. Report CSDG 78-2, Department of Computer Science, University of Colorado, Boulder.
- [1007] H. JORDAN [1978]. *A special purpose architecture for finite element analysis*, Proc. 1978 Int. Conf. Par. Proc., pp. 263–66.
- [1008] H. JORDAN [1981]. *Parallelizing a sparse matrix package*, Tech. Report CSDG 81-1, Computer Systems Design Group, University of Colorado, Boulder.
- [1009] H. JORDAN [1983]. *Performance measurements on HEP — A pipelined MIMD computer*, Proc. 10th Ann. Int. Symp. Comp. Arch.
- [1010] H. JORDAN [1984]. *Experience with pipelined multiple instruction streams*, Proc. IEEE, 72, pp. 113–123.
- [1011] H. JORDAN [1985]. *Parallel computation with the Force*, Tech. Report 85-45, ICASE, NASA Langley Research Center, Hampton, VA, October.
- [1012] H. JORDAN [1986]. *The Force on the Flex: Global parallelism and portability*, Tech. Report 86-54, ICASE, NASA Langley Research Center, Hampton, VA, August.
- [1013] H. JORDAN [1986]. *Structuring parallel algorithms in an MIMD, shared memory environment*, Parallel Computing, 3, pp. 93–110.
- [1014] H. JORDAN [1987]. *The Force*, Tech. Report 87-1-1, Department of Electrical and Computer Engineering, University of Colorado, Boulder, January.
- [1015] H. JORDAN [1987]. *Interpreting parallel processor performance measurements*, SIAM J. Sci. Statist. Comput., 8, pp. s220–s226.
- [1016] H. JORDAN AND D. PODSIADLO [1980]. *A conjugate gradient program for the Finite Element Machine*, Tech. Report CSDG, Department of Computer Science, University of Colorado, Boulder.
- [1017] H. JORDAN AND P. SAWYER [1979]. *A multimicroprocessor system for finite element structural analysis*, Trends in Computerized Structural Analysis and Synthesis, A. Noor and H. McComb, eds., Pergamon Press, New York, NY, pp. 21–29.
- [1018] H. JORDAN, M. SCALABRIN, AND W. CALVERT [1979]. *A comparison of three types of multiprocessor algorithms*, Proc. 1979 Int. Conf. Par. Proc., pp. 231–238.

- [1019] T. JORDAN [1974]. *A new parallel algorithm for diagonally dominant tri-diagonal matrices*, Tech. Report, Los Alamos National Laboratory.
- [1020] T. JORDAN [1979]. *A performance evaluation of linear algebra software in parallel architectures*, Performance Evaluation of Numerical Software, L. Fosdick, ed., North-Holland, pp. 59–76.
- [1021] T. JORDAN [1982]. *CALMATH: Some problems and applications*, in Cray Research, Inc. [423], pp. 5–8.
- [1022] T. JORDAN [1982]. *A guide to parallel computation and some CRAY-1 experiences*, in Rodriguez [1636], pp. 1–50.
- [1023] T. JORDAN [1984]. *Conjugate gradient preconditioners for vector and parallel processors*, in Birkhoff and Schoenstadt [173], pp. 127–139.
- [1024] T. JORDAN AND K. FONG [1977]. *Some linear algebraic algorithms and their performance on the CRAY-1*, in Kuck et al. [1128], pp. 313–316.
- [1025] G. JOUBERT AND E. CLOETH [1984]. *The solution of tridiagonal linear systems with an MIMD parallel computer*, Proc. 1984 GAMM Conference, Z. Angew. Math. Mech.
- [1026] A. KAHAEV [1985]. *Multiprocessor supersystems with programmable architecture based on the data-stream principle*, Computational Processes and Systems, Izdatel'stvo Nauka, Moscow, pp. 140–153.
- [1027] S. KAK [1988]. *A two-layered mesh array for matrix multiplication*, Parallel Computing, 6, pp. 383–385.
- [1028] L. KALE [1985]. *Lattice Mesh: A multi-bus architecture*, Proc. 1985 Int. Conf. Par. Proc., pp. 700–702.
- [1029] E. KALNAY AND L. TAKOCS [1982]. *A simple atmospheric model on the sphere with 100% parallelism*, Research Review [1980–81], NASA-Goddard Modeling and Simulation Facility.
- [1030] E. KALNEY-RIVAS, A. BAYLISS, AND J. STORCH [1976]. *Experiments with the fourth order GISS model of the global atmosphere*, Proc. Conf. on Simulation of Large-Scale Atmospheric Processes, Hamburg, Germany.
- [1031] C. KAMATH [1986]. *Solution of nonsymmetric systems of equations on a multiprocessor*, Tech. Report 591, Center for Supercomputing Research and Development, University of Illinois at Urbana-Champaign, August.
- [1032] C. KAMATH AND A. SAMEH [1984]. *The preconditioned conjugate gradient algorithm on a multiprocessor*, in Vichnevetsky and Stepleman [1908], pp. 210–217.
- [1033] C. KAMATH AND A. SAMEH [1986]. *A projection method for solving nonsymmetric linear systems on multiprocessors*, Tech. Report 611, Center for Supercomputing Research and Development, University of Illinois at Urbana-Champaign, October.
- [1034] C. KAMATH, A. SAMEH, G. YANG, AND D. KUCK [1985]. *Structural computations on the Cedar system*, Computers and Structures, 20, pp. 47–54.
- [1035] E. KAMGNIA AND A. SAMEH [1985]. *A numerical conformal mapping method for simply connected domains*, Tech. Report 507, Center for Supercomputing Research and Development, University of Illinois at Urbana-Champaign, September.
- [1036] T. KAMIMURA AND T. HOSHINO [1985]. *Processing of Alternating Direction Implicit (ADI) method by parallel computer PAX*, Trans. Info. Proc. Soc. Japan, 26, pp. 19–24.
- [1037] D. KAMOWITZ [1987]. *SOR and MGR[v] experiments on the Crystal multicomputers*, Parallel Computing, 4, pp. 117–142.
- [1038] D. KAMOWITZ [1988]. *Experimental results for multigrid and transport problems*, in McCormick [1306].
- [1039] F. KAMPE AND T. NGUYEN [1988]. *Performance comparison of the CRAY-2 and CRAY X-MP on a class of seismic data processing algorithms*, Parallel Computing, 7, pp. 41–54.
- [1040] Y. KANEDA AND M. KOHATA [1982]. *Highly parallel computing of linear equations on the matrix-broadcast memory connected array processor system*, Proc. 10th IMACS World Congress on Systems Simulation and Scientific Computation, vol. 1, IMACS, pp. 320–322.

- [1041] R. KANT AND T. KIMURA [1978]. *Decentralized parallel algorithms for matrix computations*, Proc. 5th Annual Symp. Comp. Arch., pp. 96–100.
- [1042] A. KAPAUAN, K. WANG, D. GANNON, J. CUNY, AND L. SNYDER [1984]. *The Pringle: An experimental system for parallel algorithm and software testing*, Proc. 1984 Int. Conf. Par. Proc., pp. 1–6.
- [1043] H. KAPITZA AND D. EPPEL [1987]. *A 3-D Poisson solver based on conjugate gradients compared to standard iterative methods and its performance on vector computers*, J. Comp. Phys., 68, pp. 474–484.
- [1044] M. KAPS AND M. SCHLEGL [1987]. *A short proof for the existence of the WZ-factorization*, Parallel Computing, 4, pp. 229–232.
- [1045] R. KAPUR AND J. BROWNE [1981]. *Block tridiagonal linear systems on a reconfigurable array computer*, Proc. 1981 Int. Conf. Par. Proc., pp. 92–99.
- [1046] R. KAPUR AND J. BROWNE [1984]. *Techniques for solving block tridiagonal systems on reconfigurable array computers*, SIAM J. Sci. Statist. Comput., 5, pp. 701–719.
- [1047] A. KARP [1987]. *Programming for parallelism*, Computer, 20(5), pp. 43–57.
- [1048] A. KARP AND J. GREENSTADT [1987]. *An improved parallel Jacobi method for diagonalizing a symmetric matrix*, Parallel Computing, 5, pp. 281–294.
- [1049] R. KARP AND R. MILLER [1966]. *Properties of a model for parallel computations: Determinacy, termination, queuing*, SIAM J. Appl. Math., 14, pp. 1390–1411.
- [1050] R. KARP AND W. MIRANKER [1968]. *Parallel minimax search for a maximum*, J. Combin. Theory, 4, pp. 19–35.
- [1051] L. KARTASHEV AND S. KARTASHEV, eds. [1987]. *Supercomputing '87: Proceedings of the Second International Conference on Supercomputing*, St. Petersburg, International Supercomputing Institute, International Supercomputing Institute.
- [1052] S. KARTASHEV AND S. KARTASHEV, eds. [1986]. *Supercomputing Systems*, North-Holland, New York.
- [1053] A. KASAHARA [1984]. *Recent mathematical and computational developments in numerical weather prediction*, in Parter [1522], pp. 85–126.
- [1054] H. KASAHARA AND S. NARITA [1984]. *Practical multiprocessor scheduling algorithms for efficient parallel processing*, IEEE Trans. Comput., C-33, pp. 1023–1029.
- [1055] M. KASCIC [1978]. *A direct Poisson solver on STAR*, Proc. 1978 LASL Workshop on Vector and Parallel Processors.
- [1056] M. KASCIC [1979]. *Vector processing on the CYBER 200*, in Jesshope and Hockney [972], pp. 237–270.
- [1057] M. KASCIC [1979]. *Vector processing on the CYBER 200 and vector numerical linear algebra*, Proc. 3rd GAMM Conf. on Numeric Mathematics in Fluid Dynamics.
- [1058] M. KASCIC [1983]. *Syntactic and semantic vectorization: Whence cometh intelligence in supercomputing?*, Proc. 1983 Summer Computer Simulation Conf., Vancouver.
- [1059] M. KASCIC [1984]. *Anatomy of a Poisson solver*, in Feilmeier et al. [623], pp. 173–179.
- [1060] M. KASCIC [1984]. *Interplay between computer methods and partial differential equations: Iterative methods as exemplar*, in Vichnevetsky and Stepleman [1908], pp. 379–382.
- [1061] M. KASCIC [1984]. *A performance survey of the CYBER 205*, in Kowalik [1111], pp. 191–210.
- [1062] M. KASCIC [1984]. *Vorton dynamics: A case study of developing a fluid dynamics model for a vector processor*, Parallel Computing, 1, pp. 35–44.
- [1063] M. KASCIC [1986]. *Vectorization as intelligent processing*, in Fernbach [630], pp. 59–67.
- [1064] H. KASHIWAGI [1984]. *Japanese super-speed computer project*, in Kowalik [1111], pp. 117–125.
- [1065] I. KATZ AND M. FRANKLIN [1985]. *Two strategies for root finding on multiprocessor systems*, SIAM J. Sci. Statist. Comput., 6, pp. 314–333.
- [1066] I. KATZ, M. FRANKLIN, AND A. SEN [1977]. *Optimally stable parallel predictors for Adams-Moulton correctors*, Comput. Math. Appl., 3, pp. 217–233.
- [1067] L. KAUFMAN [1984]. *Banded eigenvalue solvers on vector machines*, ACM Trans. Math.

- Softw., 10, pp. 73–86.
- [1068] M. KAUFMAN [1974]. *An almost-optimal algorithm for the assembly line scheduling problem*, IEEE Trans. Comput., C-23, pp. 1169–1174.
- [1069] S. KEELING [1987]. *On implicit Runge-Kutta methods for parallel computations*, Tech. Report 87-58, ICASE, NASA Langley Research Center, Hampton, VA.
- [1070] J. KELLER AND A. JAMESON [1978]. *Preliminary study of the use of the STAR-100 computer for transonic flow calculations*, Paper 78-12, AIAA.
- [1071] R. KENDALL, G. MORRELL, D. PEACEMAN, W. SILLIMAN, AND J. WATTS [1983]. *Development of a multiple application reservoir simulator for use on a vector computer*, Paper 11483, SPE. SPE Middle East Oil Tech. Conf., Bahrain.
- [1072] R. KENDALL, J. NOLEN, AND P. STANAT [1984]. *The impact of vector processors on petroleum reservoir simulation*, Proc. IEEE, 72, pp. 85–89.
- [1073] M. KENICHI [1981]. *A vector-oriented finite-difference scheme for calculating three-dimensional compressible laminar and turbulent boundary layers on practical wing configurations*, Paper 81-1020, AIAA.
- [1074] E. KERCKECKFFS [1986]. *Parallel algorithms for ordinary differential equations — An introductory review*, Proceedings of the 1986 Summer Simulation Conference, Society for Computer Simulation, pp. 947–952.
- [1075] D. KERSHAW [1982]. *Solution of single tridiagonal linear systems and vectorization of the ICCG algorithm on the CRAY-1*, in Rodrigue [1636], pp. 85–89.
- [1076] D. KEYES AND W. GROPP [1987]. *A comparison of domain decomposition techniques for elliptic partial differential equations and their parallel implementation*, SIAM J. Sci. Statist. Comput., 8, pp. s166–s202.
- [1077] D. KEYES AND D. SMOOKE [1987]. *Analysis of a parallelized nonlinear elliptic boundary value problem solver with application to reacting flows*, Tech. Report 87-21, ICASE, NASA Langley Research Center, Hampton, VA.
- [1078] J. KIGHTLEY AND I. JONES [1985]. *A comparison of conjugate gradient preconditionings for three-dimensional problems in a CRAY-1*, Comput. Phys. Comm., 37, pp. 205–214.
- [1079] J. KIGHTLEY AND C. THOMPSON [1987]. *On the performance of some rapid elliptic solvers on a vector processor*, SIAM J. Sci. Statist. Comput., 8, pp. 701–715.
- [1080] J. KILLOUGH [1979]. *The use of vector processors in reservoir simulation*, Proc. SPE Symposium Reservoir Simulation, Denver.
- [1081] J. KILLOUGH [1986]. *A multi-level domain decomposition algorithm suitable for the solution of three-dimensional elliptic partial differential equations*, Tech. Report TR86-7, Department of Mathematical Sciences, Rice University.
- [1082] T. KIMURA [1979]. *Gauss-Jordan elimination by VLSI mesh-connected processors*, in Jesshope and Hockney [972], pp. 271–290.
- [1083] D. KINCAID, G. CAREY, T. OPPE, K. SEPEHNOORI, AND D. YOUNG [1984]. *Combining finite element and iterative methods for solving partial differential equations on advanced computer architectures*, in Vichnevetsky and Stepleman [1908], pp. 375–378.
- [1084] D. KINCAID AND T. OPPE [1983]. *ITPACK on supercomputers*, Numerical Methods, A. Dold and B. Eckman, eds., Springer-Verlag, New York, pp. 151–161.
- [1085] D. KINCAID AND T. OPPE [1988]. *A parallel algorithm for the general LU factorization*, Comm. Appl. Numer. Meth., 4, pp. 349–360.
- [1086] D. KINCAID, T. OPPE, AND D. YOUNG [1982]. *Adapting ITPACK routines for use on a vector computer*, in Control Data Corporation [411].
- [1087] D. KINCAID, T. OPPE, AND D. YOUNG [1986]. *Vector computations for sparse linear systems*, SIAM J. Algebraic Discrete Methods, 7, pp. 99–112.
- [1088] D. KINCAID, T. OPPE, AND D. YOUNG [1986]. *Vectorized iterative methods for partial differential equations*, Comm. Appl. Numer. Meth., 2, pp. 789–796.
- [1089] D. KINCAID AND D. YOUNG [1984]. *Adapting iterative algorithms for solving large sparse lin-*

- ear systems for efficient use of the CDC CYBER 205*, in Gary [700], pp. 147–160.
- [1090] D. KIRKPATRICK, M. KLAWE, AND N. PIPPENGER [1985]. *Some graph coloring theorems with application to generalized connection networks*, SIAM J. Algebraic Discrete Methods, 6, pp. 576–582.
- [1091] D. KNIGHT [1983]. *A hybrid explicit-implicit numerical algorithm for the three-dimensional compressible Navier-Stokes equations*, Paper 83-0223, AIAA. AIAA 21st Aerospace Sciences Meeting, January, Reno, Nevada.
- [1092] J. KNIGHT AND D. DUNLOP [1983]. *On the design of a special purpose scientific programming language*, Softw. Pract. Exp., 13, pp. 893–907.
- [1093] J. KNIGHT, W. POOLE, AND R. VOIGT [1975]. *System balance analysis for vector computers*, Proc. 1975 ACM National Conference, pp. 163–168.
- [1094] J. KNOTT [1983]. *A performance analysis of the PASLIB version 2.1 SEND and RECV routines on the Finite Element Machine*, Contractor Report 172205, NASA Langley Research Center.
- [1095] R. KOBER AND C. KUZNIA [1978]. *SMS — A multiprocessor architecture for high speed numerical computations*, Proc. 1978 Int. Conf. Par. Proc., pp. 18–23.
- [1096] U. KODRES [1984]. *Processing efficiency of a class of multicomputer systems*, Int. J. Mini Microprocessors, 5(2), pp. 28–33.
- [1097] P. KOGGE [1973]. *Maximal rate pipelined solutions to recurrence problems*, Proc. First Ann. Symp. on Comp. Arch., pp. 71–76.
- [1098] P. KOGGE [1974]. *Parallel solution of recurrence problems*, IBM J. Res. Dev., 18, pp. 138–148.
- [1099] P. KOGGE [1981], *The Architecture of Pipelined Computers*, McGraw Hill Book Company, New York, NY.
- [1100] P. KOGGE AND H. STONE [1973]. *A parallel algorithm for the efficient solution of a general class of recurrence equations*, IEEE Trans. Comput., C-22, pp. 786–793.
- [1101] W. KOHLER [1975]. *A preliminary evaluation of the critical path method for scheduling tasks on multiprocessor systems*, IEEE Trans. Comput., C-24, pp. 1235–1238.
- [1102] O. KOLP AND H. MIERENDORFF [1986]. *Efficient multigrid algorithms for locally constrained parallel systems*, Appl. Math. & Comp., 19(1-4), pp. 169–200. (Special Issue, Proceedings of the Second Copper Mountain Conference on Multigrid Methods, Copper Mountain, CO, S. McCormick, ed.).
- [1103] A. KONIGES AND D. ANDERSON [1987]. *ILUBCG2: A preconditioned biconjugate gradient routine for the solution of linear asymmetric matrix equations arising from 9-point discretizations*, Comput. Phys. Comm., 43, pp. 297–.
- [1104] A. KONIGES AND D. ANDERSON [1987]. *Optimized matrix solution packages for use in plasma physics codes*, Annual Controlled Fusion Theory Conference, San Diego, CA. Paper 2D12.
- [1105] A. KONIGES AND D. ANDERSON [1987]. *Vectorized and multitasked software packages for solving asymmetric matrix equations*, in Vichnevetsky and Stepleman [1909], p. 118.
- [1106] H. KOPP [1977]. *Numerical weather forecast with the multi-microprocessor system SMS201*, in Feilmeier [621], pp. 265–268.
- [1107] D. KORN AND J. LAMBIOTTE [1979]. *Computing the fast Fourier transform on a vector computer*, Math. Comp., 33, pp. 977–992.
- [1108] V. KOTOV [1984]. *Formal models of parallel computations*, in Miklosko and Kotov [1357], pp. 109–141.
- [1109] V. KOTOV AND V. VALKOUSKII [1984]. *Automatic construction of parallel programs*, in Miklosko and Kotov [1357], pp. 65–107.
- [1110] J. KOWALIK [1983]. *Preliminary experience with multiple-instruction multiple data computation*, in Noor [1443], pp. 49–54.
- [1111] J. KOWALIK, ed. [1984]. *Proceedings of the NATO Workshop on High Speed Computations, West Germany*, NATO ASI Series, vol. F-7, Berlin, Springer-Verlag.
- [1112] J. KOWALIK [1985], *Parallel MIMD Computation: HEP Supercomputer and Its Applications*,

- MIT Press, Cambridge, MA.
- [1113] J. KOWALIK AND S. KUMAR [1982]. *An efficient parallel block conjugate gradient method for linear equations*, Proc. 1982 Int. Conf. Par. Proc., pp. 47–52.
 - [1114] J. KOWALIK, R. LORD, AND S. KUMAR [1984]. *Design and performance of algorithms for MIMD parallel computers*, in Kowalik [1111], pp. 257–276.
 - [1115] M. KRATZ [1984]. *Some aspects of using vector computers for finite element analyses*, in Feilmeier et al. [623], pp. 349–354.
 - [1116] M. KRATZ [1984]. *Vectorised finite-element stiffness generation: Tuning the Noor-Lambiotte algorithm*, Parallel Computing, 1, pp. 121–132.
 - [1117] S. KRIST AND T. ZANG [1987]. *Algorithm implementation on the Navier-Stokes computer*, Tech. Report NASA-TM-89119, NASA Langley Research Center, Hampton, VA.
 - [1118] L. KRONSDJO [1986]. *Computational Complexity of Sequential and Parallel Algorithms*, Wiley, New York, NY.
 - [1119] C. KRUSKAL [1983]. *Searching, merging and sorting in parallel computations*, IEEE Trans. Comput., C-32(10), pp. 942–946.
 - [1120] C. KRUSKAL AND M. SNIR [1983]. *The performance of multistage interconnection networks for multiprocessors*, IEEE Trans. Comput., C-32(12), pp. 1091–1098.
 - [1121] D. KUCK [1976]. *Parallel processing of ordinary programs*, Advances in Computers, vol. 15, Academic Press, NY, pp. 119–179.
 - [1122] D. KUCK [1977]. *A survey of parallel machine organization and programming*, ACM Computing Surveys, 9, pp. 29–59.
 - [1123] D. KUCK [1978]. *The Structure of Computers and Computation*, John Wiley and Sons, New York, NY.
 - [1124] D. KUCK, P. BUDNICK, S. CHEN, E. DAVIS, J. HAN, P. KRASKA, D. LAWRIE, Y. MURAKO, R. STREHENDT, AND R. TOWLE [1973]. *Measurement of parallelism in ordinary Fortran programs*, Proc. Sagamore Conf. Parallel Processing, pp. 23–36.
 - [1125] D. KUCK, E. DAVIDSON, D. LAWRIE, AND A. SAMEH [1986]. *Parallel supercomputing today and the Cedar approach*, Science, 231, pp. 967–974.
 - [1126] D. KUCK AND D. GAJSKI [1984]. *Parallel processing of sparse structures*, in Kowalik [1111], pp. 229–244.
 - [1127] D. KUCK, D. LAWRIE, R. CYTRON, A. SAMEH, AND D. GAJSKI [1986]. *Cedar project*, in Sharp et al. [1772], pp. 97–123.
 - [1128] D. KUCK, D. LAWRIE, AND A. SAMEH, eds. [1977]. *High Speed Computer and Algorithm Organization*, Academic Press, New York, NY.
 - [1129] D. KUCK, J. McGRAW, AND M. WOLFE [1984]. *A debate: Retire FORTRAN?*, Physics Today, 37(5), pp. 66–75.
 - [1130] D. KUCK AND A. SAMEH [1972]. *Parallel computation of eigenvalues of real matrices*, Information Processing '71, North-Holland, pp. 1266–1272.
 - [1131] D. KUCK, A. SAMEH, R. CYTRON, A. VEIDENBAUM, C. POLYCHRONOPoulos, G. LEE, T. McDANIEL, B. LEASURE, C. BECKMAN, J. DAVIES, AND C. KRUSKAL [1984]. *The effects of program restructuring algorithm change and architecture choice on program performance*, Proc. 1984 Int. Conf. Par. Proc., pp. 129–138.
 - [1132] D. KUCK AND R. STOKES [1982]. *The Burroughs Scientific Processor (BSP)*, IEEE Trans. Comput., C-31, pp. 363–376.
 - [1133] R. KUHN AND D. PADUA [1981]. *Parallel Processing*, IEEE Computer Society Press.
 - [1134] A. KUMAR, R. GRAVES, AND K. WEILMUNSTER [1980]. *User's guide for vectorized code EQUIP for calculating equilibrium chemistry on Control Data STAR-100 computer*, NASA Tech. Memo. 80192, NASA Langley Research Center.
 - [1135] A. KUMAR, D. RUDY, J. DRUMMOND, AND J. HARRIS [1982]. *Experiences with explicit finite difference schemes for complex fluid dynamics problems on STAR-100 and CYBER 203 computers*, in Control Data Corporation [411].

- [1136] M. KUMAR [1988]. *Measuring parallelism in computation-intensive scientific/engineering applications*, IEEE Trans. Comput., 37(9), pp. 1088–1098.
- [1137] S. KUMAR [1982]. *Parallel Algorithms for Solving Linear Equations on MIMD Computers*, PhD dissertation, Washington State University, Department of Computer Science.
- [1138] S. KUMAR AND J. KOWALIK [1984]. *Parallel factorization of a positive definite matrix on an MIMD computer*, Proc. 1984 Int. Conf. Par. Proc., pp. 410–416.
- [1139] S. KUMAR AND J. KOWALIK [1986]. *Triangularization of a positive definite matrix on a parallel computer*, J. Par. Dist. Comp., 3, pp. 450–460.
- [1140] H. KUNG [1976]. *Synchronized and asynchronous parallel algorithms for multi-processors*, Algorithms and Complexity, J. Traub, ed., Academic Press, New York, pp. 153–200.
- [1141] H. KUNG [1979]. *Let's design algorithms for VLSI systems*, Proc. Conf. Very Large Scale Integration, California Institute of Technology, pp. 65–90.
- [1142] H. KUNG [1980]. *The structure of parallel algorithms*, Advances in Computers, M. Youvits, ed., vol. 19, Academic Press, pp. 65–112.
- [1143] H. KUNG [1982]. *Why systolic architectures?*, Computer, 15(1), pp. 37–46.
- [1144] H. KUNG [1984]. *Systolic algorithms*, in Parter [1522], pp. 127–140.
- [1145] H. KUNG AND C. LEISERSON [1979]. *Systolic arrays (for VLSI)*, Sparse Matrix Proceedings (1978), I. Duff and G. Stewart, eds., Society for Industrial and Applied Mathematics, pp. 256–282.
- [1146] H. KUNG, R. SPROULL, AND G. STEELE, eds. [1981]. *VLSI Systems and Computations*, Computer Science Press, Rockville, MD.
- [1147] H. KUNG AND D. STEVENSON [1977]. *A software technique for reducing the routing time on a parallel computer with a fixed interconnection network*, in Kuck et al. [1128], pp. 423–433.
- [1148] H. KUNG AND J. WEBB [1985]. *Global operations on the CMU Warp machine*, Proceedings of 1985 AIAA Computers in Aerospace V Conference, October, AIAA, pp. 209–218.
- [1149] H. KUNG AND S. YU [1982]. *Integrating high-performance special-purpose devices into a system*. Presented at the IBM Symposium on Vector Computers and Scientific Computing, Rome.
- [1150] S. KUNG [1984]. *On supercomputing with systolic/wavefront array processors*, Proc. IEEE, 72, pp. 867–884.
- [1151] S. KUNG AND R. GAL-EZAR [1982]. *Linear or sparse array for eigenvalue and singular value decompositions?*, Proc. USC Workshop on VLSI and Modern Signal Processing, Los Angeles, pp. 89–98.
- [1152] S. KUNG AND R. GAL-EZAR [1985]. *Eigenvalue, singular value and least squares solvers via the wavefront array processor*, in Snyder et al. [1798], pp. 201–212.
- [1153] S. KUNG, R. GAL-EZAR, K. ARUN, AND D. BHASKARRAO [1982]. *Wavefront array processor; Architecture, language and application*, IEEE Trans. Comput., C-31, pp. 1054–1066.
- [1154] S. KUNG AND Y. HU [1981]. *Fast and parallel algorithms for solving Toeplitz systems*, Proc. Internat. Symp. on Mini- and Micro-computers in Control and Measurement, San Francisco, may, pp. 163–168.
- [1155] S. KUNG AND Y. HU [1983]. *A highly concurrent algorithm and pipelined architecture for solving Toeplitz systems*, IEEE Trans. Acoustics, Speech and Signal Processing, ASSP-31, pp. 66–76.
- [1156] S. KUNG, S. LO, S. JEAN, AND J. HWANG [1987]. *Wavefront array processors — Concept to implementation*, Computer, 20(7), pp. 18–33.
- [1157] S. KUNKEL AND S. J. [1987]. *Solving linear recurrences on pipelined computers*, in Kartashev and Kartashev [1051], pp. 384–391.
- [1158] C.-C. KUO AND T. CHAN [1988]. *Two-color Fourier analysis of iterative algorithms for elliptic problems with red/black ordering*, CAM Report 88-15, Department of Mathematics, UCLA.
- [1159] H.-C. KUO AND S. KUMAR [1986]. *Solving positive definite linear systems on vector comput-*

- ers, Proc. 1986 Int. Conf. Par. Proc., pp. 441–443.
- [1160] J. KUO, B. LEVY, AND B. MUSKUS [1987]. *A local relaxation method for solving elliptic PDEs on mesh connected arrays*, SIAM J. Sci. Statist. Comput., 8, pp. 550–573.
- [1161] A. KWOK [1986]. *The multiprocessor modified Pease FFT algorithm*, Tech. Report, Center for Supercomputing Research and Development, University of Illinois at Urbana-Champaign.
- [1162] A. KWOK [1987]. *A performance analysis of architectural scalability*, Tech. Report 679, Center for Supercomputing Research and Development, University of Illinois at Urbana-Champaign, August.
- [1163] C. LAI AND H. LIDDELL [1987]. *A review of parallel finite element methods on the DAP*, Appl. Numer. Mod., 11, pp. 330–341.
- [1164] S. LAKSHMIVARAHAN AND S. DHALL [1986]. *A new hierarchy of hypercube interconnection schemes for parallel computers: Theory and applications*, Tech. Report, University of Oklahoma, August.
- [1165] S. LAKSHMIVARAHAN AND S. DHALL [1987]. *A lower bound on the communication complexity in solving linear tridiagonal systems on cube architectures*, in Heath [858], pp. 560–568.
- [1166] J. LAMBIOTTE [1975]. *The Solution of Linear Systems of Equations on a Vector Computer*, PhD dissertation, The University of Virginia, Department of Applied Mathematics and Computer Science.
- [1167] J. LAMBIOTTE [1979]. *The development of a STAR-100 code to perform a 2-D FFT*, Proc. Lawrence Livermore Lab. Conf. Sci. Compt.
- [1168] J. LAMBIOTTE [1984]. *Efficient sparse matrix multiplication scheme for the CYBER 203*, in Gary [700], pp. 243–256.
- [1169] J. LAMBIOTTE AND L. HOWSER [1974]. *Vectorization on the STAR computer of several numerical methods for a fluid flow problem*, Tech. Report NASA TN D-7545, NASA Langley Research Center.
- [1170] J. LAMBIOTTE AND R. VOIGT [1975]. *The solution of tridiagonal linear systems on the CDC STAR-100 computer*, ACM Trans. Math. Softw., 1, pp. 308–329.
- [1171] L. LAMPORT [1974]. *The parallel execution of DO loops*, Comm. ACM, 17, pp. 83–93.
- [1172] B. LANG, J. MIELLOU, AND P. SPITERIC [1986]. *Asynchronous relaxation algorithms for optimal control problems*, Math. Comp. Simul., 28, pp. 227–242.
- [1173] A. LARRABEE AND R. BABB [1987]. *Adaptation of a large-scale computational chemistry program for the Intel iPSC concurrent computer*, in Heath [858], pp. 464–472.
- [1174] J. LARSON [1984]. *Multitasking on the CRAY X-MP-2 multiprocessor*, Computer, 17(7), pp. 62–69.
- [1175] K. LAW [1982]. *Systolic systems for finite element methods*, Tech. Report R-82-139, Department of Civil Engineering, Carnegie-Mellon University.
- [1176] LAWRENCE LIVERMORE NATIONAL LABORATORY [1979]. *The S-1 project*, Tech. Report UCID-18619, Lawrence Livermore National Laboratory.
- [1177] D. LAWRIE [1975]. *Access and alignment of data in an array processor*, IEEE Trans. Comput., C-24, pp. 1145–1155.
- [1178] D. LAWRIE, T. LAYMAN, D. BAER, AND J. RANDALL [1975]. *Glypnir — A programming language for Illiac IV*, Comm. ACM, 18, pp. 157–164.
- [1179] D. LAWRIE AND A. SAMEH [1983]. *Applications of structural mechanics on large-scale multiprocessor computers*, in Noor [1443], pp. 55–64.
- [1180] D. LAWRIE AND A. SAMEH [1984]. *The computation and communication complexity of a parallel banded system solver*, ACM Trans. Math. Softw., 10, pp. 185–195.
- [1181] C. LAZOU [1987]. *Supercomputers and Their Use*, Oxford University Press.
- [1182] T. LEBLANC [1986]. *Shared memory versus message passing in a tightly coupled multiprocessor: A case study*, Tech. Report, Department of Computer Science, University of Rochester, January.
- [1183] T. LEBLANC, M. SCOTT, AND C. BROWN [1988]. *Large-scale parallel programming: Experi-*

- ence with the BBN Butterfly parallel processor*, SIGPLAN Notices, 23(9), pp. 161–172.
- [1184] P. LECA AND P. ROY [1983]. *Simulation numerique de la turbulence sur un système multiprocessor*, First. Int. Coll. on Vector and Parallel Methods, Paris.
 - [1185] G. LEE, C. KRUSKAL, AND D. KUCK [1985]. *An empirical study of automatic restructuring of nonnumerical programs for parallel processors*, IEEE Trans. Comput., C-34, pp. 927–933.
 - [1186] J. LEE [1980]. *Three-dimensional finite element analysis of layered fiber-reinforced composite materials*, Computers and Structures, 12, p. 319.
 - [1187] R. LEE [1977]. *Performance bounds in parallel processor organizations*, in Kuck et al. [1128], pp. 453–455.
 - [1188] T. LEGENDI, D. PARKINSON, R. VOLLMAN, AND G. WOLF, eds. [1986]. *Parallel Processing by Cellular Automata and Arrays*, North-Holland.
 - [1189] M. LEHMAN [1966]. *A survey of problems and preliminary results concerning parallel processing and parallel processors*, Proc. IEEE, 54, pp. 1889–1901.
 - [1190] C. LEISERSON [1985]. *Fat-trees: Universal networks for hardware-efficient supercomputing*, Proc. 1985 Int. Conf. Par. Proc., pp. 393–402.
 - [1191] C. LEISERSON [1985]. *Fat-trees: Universal networks for hardware-efficient supercomputing*, IEEE Trans. Comput., C-34, pp. 892–901.
 - [1192] C. LEISERSON AND J. LEWIS [1988]. *Orderings for parallel sparse symmetric factorization*, Tech. Report ETA-TR-85, Boeing Computer Services, March.
 - [1193] E. LELARASME, A. RUEHLI, AND A. SANGIOVANNI-VINETTELLI [1982]. *The wavefront relaxation method for time-domain analysis of large scale integrated circuits*, IEEE Trans. Computer-Aided Design of Integrated Circuits and Systems, CAD-1, pp. 131–145.
 - [1194] M. LEMKE [1985]. *Experiments with a vectorized multigrid Poisson solver on the CDC CYBER 205, Cray X-MP and Fujitsu VP 200*. Arbeitspapiere der GMD, Nr. 179. Gesellschaft für Mathematik und Datenverarbeitung, St. Augustin.
 - [1195] J. LENSTRA AND A. RINNOOY KAN [1978]. *Complexity of scheduling under precedence constraints*, Oper. Res., 26, pp. 22–35.
 - [1196] M. LEUZE [1981]. *Memory Access Patterns in Vector Computers with Application to Problems in Linear Algebra*, PhD dissertation, Duke University, Department of Computer Science.
 - [1197] M. LEUZE [1986]. *Parallel triangularization of substructured finite element problems*, Lin. Alg. & Appl., 77, pp. 241–258.
 - [1198] M. LEUZE [1988]. *Independent set orderings for parallel Gaussian elimination*, Parallel Computing (to appear).
 - [1199] M. LEUZE AND L. SAXTON [1983]. *On minimum parallel computing times for Gaussian elimination*, Congressus Numerantium, 40, pp. 169–179.
 - [1200] E. LEVIN [1985]. *Suitability of a data flow architecture for problems involving simple operations on large arrays*, Proc. 1985 Int. Conf. Par. Proc., pp. 518–520.
 - [1201] R. LEVINE [1982]. *Supercomputers*, Sci. Amer., 246, pp. 118–135.
 - [1202] J. LEWIS AND B. PEYTON [1988]. *A fast implementation of the Jess and Kees algorithm*, Tech. Report ETA-TR-90, Boeing Computer Services, May.
 - [1203] J. LEWIS AND H. SIMON [1986]. *The impact of hardware gather/scatter on sparse Gaussian elimination*, Proc. 1986 Int. Conf. Par. Proc., pp. 366–368.
 - [1204] J. LEWIS AND H. SIMON [1988]. *The impact of hardware gather/scatter on sparse Gaussian elimination*, SIAM J. Sci. Statist. Comput., 9, pp. 304–311.
 - [1205] G. LI AND T. COLEMAN [1987]. *A new method for solving triangular systems on distributed memory message-passing multiprocessors*, Tech. Report TR 87-812, Department of Computer Science, Cornell University.
 - [1206] G. LI AND T. COLEMAN [1987]. *A parallel triangular solver for a hypercube multiprocessor*, in Heath [858], pp. 539–551.
 - [1207] G. LI AND T. COLEMAN [1988]. *A parallel triangular solver for a distributed-memory multiprocessor*, SIAM J. Sci. Statist. Comput., 9, pp. 485–502.

- [1208] G. LI AND B. WAH [1985]. *The design of optimal systolic algorithms*, IEEE Trans. Comput., C-34, pp. 66–77.
- [1209] G. LI AND B. WAH [1985]. *Systolic processing for dynamic programming problems*, Proc. 1985 Int. Conf. Par. Proc., pp. 434–441.
- [1210] K. LI-SHAN AND D. EVANS [1988]. *The convergence rate of the Schwartz alternating procedure (V) — for more than two subdomains*, Int. J. Comput. Math., 23, pp. 295–314.
- [1211] A. LICHNEWSKY [1982]. *Sur la résolution de systèmes linéaires issus de la méthode des éléments finis par une machine multiprocesseurs*, Tech. Report 119, INRIA.
- [1212] A. LICHNEWSKY [1983], *Some vector and parallel implementations for linear systems arising in PDE problems*. Presented at the SIAM Conference on Parallel Processing for Scientific Computing, Norfolk, VA, November.
- [1213] A. LICHNEWSKY [1984]. *Some vector and parallel implementations for preconditioned conjugate gradient algorithms*, in Kowalik [1111], pp. 343–359.
- [1214] D. LILES, J. MAHAFFY, AND P. GIGUERE [1984]. *An approach to fluid mechanics calculations on serial and parallel computer architectures*, in Parter [1522], pp. 141–160.
- [1215] D. LIM AND R. THANAKIJ [1987]. *A survey of ADI implementations on hypercubes*, in Heath [858], pp. 674–679.
- [1216] A. LIN [1987]. *Parallel and supercomputing of elliptic problems*, in Kartashev and Kartashev [1051], pp. 497–502.
- [1217] T.-C. LIN AND D. MOLDORAN [1985]. *Tradeoffs in mapping algorithms to array processors*, Proc. 1985 Int. Conf. Par. Proc., pp. 719–726.
- [1218] N. LINCOLN [1982]. *Technology and design tradeoffs in the creation of a modern supercomputer*, IEEE Trans. Comput., C-31, pp. 349–362.
- [1219] N. LINCOLN [1983]. *Supercomputers = colossal computations + enormous expectations + renowned risk*, Computer, 16(5), pp. 38–47.
- [1220] B. LINT AND T. AGERWALA [1981]. *Communication issues in the design and analysis of parallel algorithms*, IEEE Trans. Softw. Eng., SE-7, pp. 174–188.
- [1221] E. LIPITAKIS [1984]. *Solving elliptic boundary value problems on parallel processors by approximate inverse matrix semi-direct methods based on the multiple explicit Jacobi iteration*, Comp. & Math. Appl., 10, pp. 171–184.
- [1222] E. LIPITAKIS AND D. EVANS [1987]. *Explicit semi-direct methods based on approximate inverse matrix techniques for solving boundary value problems on parallel processors*, Math. Comp. Simul., 29, pp. 1–18.
- [1223] G. LIPOVSKI AND K. DOTY [1978]. *Developments and directions in computer architecture*, Computer, 11(8), pp. 54–67.
- [1224] G. LIPOVSKI AND A. TRIPATHI [1977]. *A reconfigurable varistructure array processor*, Proc. 1977 Int. Conf. Par. Proc., pp. 165–174.
- [1225] J. LIPOVSKI AND M. MALEK [1987], *Parallel Computing*, John Wiley and Sons, New York, NY.
- [1226] C. LIU AND J. LAYLAND [1973]. *Scheduling algorithms for multiprogramming in a hard-real-time environment*, J. ACM, 20, pp. 46–61.
- [1227] J. LIU [1978]. *The solution of mesh equations on a parallel computer*, Tech. Report CS-78-19, Department of Computer Science, Waterloo University.
- [1228] J. LIU [1986]. *Computational models and task scheduling for parallel sparse Cholesky factorization*, Parallel Computing, 3, pp. 327–342.
- [1229] J. LIU [1987]. *Reordering sparse matrices for parallel elimination*, Tech. Report CS-87-01, Department of Computer Science, York University, Ontario, Canada, January.
- [1230] J. LIU AND A. MIRZAIAN [1987]. *A linear reordering algorithm for parallel pivoting of chordal graphs*, Tech. Report CS-87-02, Department of Computer Science, York University, Ontario, Canada, February.
- [1231] R. LIVESLEY, J. MODI, AND T. SMITHERS [1985]. *The use of parallel computation for finite*

- element calculations*, Tech. Report CUED/F-CAMS/TR.248, Cambridge University Engineering Department, Cambridge, UK.
- [1232] S.-S. LO AND B. PHILLIPPE [1986]. *The symmetric eigenvalue problem on a multiprocessor*, Tech. Report 590, Center for Supercomputing Research and Development, University of Illinois at Urbana-Champaign, April.
 - [1233] S.-S. LO, B. PHILLIPPE, AND A. SAMEH [1987]. *A multiprocessor algorithm for the symmetric tridiagonal eigenvalue problem*, SIAM J. Sci. Statist. Comput., 8, pp. s155–s165.
 - [1234] D. LOENDORF [1985]. *Development and use of an asynchronous MIMD computer for finite element analysis*, in Snyder et al. [1798], pp. 213–222.
 - [1235] D. LOGAN, C. MAPLES, D. WEAVER, AND W. RATHBUN [1984]. *Adapting scientific programs to the MIDAS multiprocessor system*, Proc. 1984 Int. Conf. Par. Proc., pp. 15–24.
 - [1236] H. LOMAX [1981]. *Some prospects for the future of computational fluid dynamics*, AIAA Comp. Fluid Dyn. Conference, June.
 - [1237] H. LOMAX AND T. PULLIAM [1982]. *A fully implicit factored code for computing three dimensional flows on the Illiac IV*, in Rodrigue [1636], pp. 217–250.
 - [1238] F. LOOTSMA AND K. RAGSDELL [1988]. *State-of-the-art in parallel nonlinear optimization*, Parallel Computing, 6, pp. 133–156.
 - [1239] R. LORD, J. KOWALIK, AND S. KUMAR [1980]. *Solving linear algebraic equations on a MIMD computer*, Proc. 1980 Int. Conf. Par. Proc., pp. 205–210.
 - [1240] R. LORD, J. KOWALIK, AND S. KUMAR [1983]. *Solving linear algebraic equations on an MIMD computer*, J. ACM, 30, pp. 103–117.
 - [1241] H. LORIN [1972]. *Parallelism in Hardware and Software*, Prentice-Hall, Inc., Englewood Cliffs, NJ.
 - [1242] M. LOUTER-NOOL [1987]. *Basic linear algebra subprograms (BLAS) on the CDC CYBER 205*, Parallel Computing, 4, pp. 143–166.
 - [1243] B. LUBACHEVSKY AND D. MITRA [1984]. *Chaotic parallel computations of fixed points of non-negative matrices of unit spectral radius*, Proc. 1984 Int. Conf. Par. Proc., pp. 109–116.
 - [1244] B. LUBACHEVSKY AND D. MITRA [1986]. *A chaotic asynchronous algorithm for computing the fixed point of a nonnegative matrix of unit spectral radius*, J. ACM, 33, pp. 130–150.
 - [1245] O. LUBECK AND V. FABER [1987]. *Modeling the performance of hypercubes: A case study using the particle-in-cell application*, Tech. Report LA-UR-87-1522, Los Alamos National Laboratory.
 - [1246] O. LUBECK, J. MOORE, AND R. MENDEZ [1985]. *A benchmark comparison of three supercomputers: Fujitsu VP-200, Hitachi S810/20 and CRAY X-MP/2*, Computer, 18(12), pp. 10–24.
 - [1247] O. LUBECK, J. MOORE, AND R. MENDEZ [1986]. *A performance evaluation of three supercomputers, Fujitsu XP-200, Hitachi S810/20, CRAY X-MP/24*, Appl. Math. & Comp., 20, pp. 143–144.
 - [1248] R. LUCAS [1987]. *Solving Planar Systems of Equations on Distributed-Memory Multiprocessors*, PhD dissertation, Stanford University, Department of Electrical Engineering.
 - [1249] B. LUCIER AND R. OVERBEEK [1987]. *A parallel adaptive numerical scheme for hyperbolic systems of conservation laws*, SIAM J. Sci. Statist. Comput., 8, pp. s203–s219.
 - [1250] F. LUK [1980]. *Computing the singular value decomposition on the Illiac IV*, ACM Trans. Math. Softw., 6, pp. 524–539.
 - [1251] F. LUK [1985]. *Algorithm-based fault tolerance for parallel matrix equation solvers*, Tech. Report EE-CEG-85-2, Department of Electrical and Computer Engineering, Cornell University. To appear in Proc. SPIE, vol. 564; Real Time Signal Processing VIII.
 - [1252] F. LUK [1985]. *A parallel method for computing the generalized singular value decomposition*, J. Par. Dist. Comp., 2, pp. 250–260.
 - [1253] F. LUK [1986]. *Architectures for computing eigenvalues and SVDs*, Tech. Report EE-CEG-86-1, Department of Electrical and Computer Engineering, Cornell University, February. To

- appear in Proc. SPIE vol. 614: Highly Parallel Signal Processing Architectures.
- [1254] F. LUK [1986]. *Fault-tolerant matrix triangularization on systolic arrays*, Tech. Report EE-CEG-86-2, Department of Electrical and Computer Engineering, Cornell University.
 - [1255] F. LUK [1986]. *A rotation method for computing the QR-decomposition*, SIAM J. Sci. Statist. Comput., 7, pp. 452–459.
 - [1256] F. LUK [1986]. *A triangular processor array for computing singular values*, Lin. Alg. & Appl., 77, pp. 259–273.
 - [1257] F. LUK AND H. PARK [1986]. *On parallel Jacobi orderings*, Tech. Report EE-CEG-86-5, Department of Electrical and Computer Engineering, Cornell University.
 - [1258] F. LUK AND S. QIAO [1986]. *Analysis of a recursive least squares signal processing algorithm*, Tech. Report EE-CEG-86-7, Department of Electrical and Computer Engineering, Cornell University.
 - [1259] F. LUK AND S. QIAO [1986]. *Computing the C-S decomposition on systolic arrays*, SIAM J. Sci. Statist. Comput., 7, pp. 1121–1125.
 - [1260] M. LUNDQUIST [1987]. *An implementation of the preconditioned conjugate gradient algorithm on the FPS T-20 hypercube*, Tech. Report URI-044, Department of Mathematical Sciences, Clemson University, December.
 - [1261] S. LUNDSTROM [1987]. *Applications considerations in the system design of highly concurrent multiprocessors*, IEEE Trans. Comput., C-36, pp. 1292–1309.
 - [1262] S. LUNDSTROM AND G. BARNES [1980]. *A controllable MIMD architecture*, Proc. 1980 Int. Conf. Par. Proc., pp. 19–27.
 - [1263] E. LUSK AND R. OVERBEEK [1983]. *Implementation of monitors with macros: A programming aid for the HEP and other parallel processors*, Tech. Report ANL-83-97, Argonne National Laboratory, December.
 - [1264] G. LYZENGA, A. RAEFSKY, AND B. HAGER [1988]. *Finite elements and the method of conjugate gradient on concurrent processors*, Solving Problems on Concurrent Processors, Volume II: Scientific and Engineering Applications, G. Fox and G. Lyzenga, eds., Prentice-Hall, Inc., Englewood Cliffs, NJ. To be published.
 - [1265] G. LYZENGA, A. RAEFSKY, AND G. HAGER [1985]. *Finite elements and the method of conjugate gradients on a concurrent processor*, Proc. ASME Int. Conf. Computers in Engineering, pp. 401–406.
 - [1266] R. MACCORMACK AND K. STEVENS [1976]. *Fluid dynamics applications of the ILLIAC IV computer*, Computational Methods and Problems in Aeronautical Fluid Dynamics, Academic Press, New York, pp. 448–465.
 - [1267] M. MACE AND R. WAGNER [1985]. *Globally optimum selection of memory storage patterns*, Proc. 1985 Int. Conf. Par. Proc., pp. 264–271.
 - [1268] N. MADSEN AND G. RODRIGUE [1975]. *Two notes on algorithm design for the CDC STAR-100*, Tech. Memo. 75-1, Lawrence Livermore National Laboratory.
 - [1269] N. MADSEN AND G. RODRIGUE [1976]. *A comparison of direct methods for tridiagonal systems on the CDC STAR-100*, Preprint UCRL-76993, Rev. 1, Lawrence Livermore National Laboratory.
 - [1270] N. MADSEN AND G. RODRIGUE [1977]. *Odd-even reduction for pentadiagonal matrices*, in Feilmeier [621], pp. 103–106.
 - [1271] N. MADSEN, G. RODRIGUE, AND J. KARUSH [1976]. *Matrix multiplication by diagonals on a vector/parallel processor*, Inf. Proc. Letts., 5, pp. 41–45.
 - [1272] G. MAGO [1979]. *A network of microprocessors to execute reduction languages*, Int. J. Comp. and Info. Sci., 8, pp. 349–385 and 435–471.
 - [1273] G. MAGO [1980]. *A cellular computer architecture for functional programming*, Proc. COMP-CON Spring, IEEE Comp. Soc. Conf., pp. 179–187.
 - [1274] G. MAGO AND R. PARGAS [1982]. *Solving partial differential equations on a cellular tree machine*, Proc. 10th IMACS World Congress on Systems Simulation and Scientific Computa-

- tion, vol. 1, IMACS, pp. 368-373.
- [1275] A. MALONY [1986]. *Cedar performance measurements*, Tech. Report 579, Center for Supercomputing Research and Development, University of Illinois at Urbana-Champaign, June.
 - [1276] D. MANDELL [1987]. *Experiences and results multitasking a hydrodynamics code on global and local memory machines*, Proc. 1987 Int. Conf. Par. Proc., pp. 415-420.
 - [1277] P. MANHARDT, R. LEWIS, D. BOULDIN, AND A. BAKER [1982]. *Array processing of the 3-dimensional Navier-Stokes equations*, Phase I Final Reports, NSF SBIR, March.
 - [1278] C. MAPLES [1985]. *Pyramids, crossbars and thousands of processors*, Proc. 1985 Int. Conf. Par. Proc., pp. 681-688.
 - [1279] C. MAPLES, D. WEAVER, D. LOGAN, AND W. RATHBUN [1983]. *Performance of a modular interactive data analysis system (MIDAS)*, Proc. 1983 Int. Conf. Par. Proc., pp. 514-519.
 - [1280] C. MAPLES, D. WEAVER, W. RATHBUN, AND D. LOGAN [1984]. *The operation and utilization of the MIDAS multiprocessor architecture*, Proc. 1984 Int. Conf. Par. Proc., pp. 197-206.
 - [1281] D. MARINESCU AND C. LIN [1986]. *Preliminary results on multiprocessor modeling and analysis using stochastic, high level Petri nets*. Presented at the Twenty-Fourth Allerton Conference on Communication, Control and Computing.
 - [1282] D. MARINESCU AND J. RICE [1987]. *Domain oriented analysis of PDE splitting algorithms*, J. Information Sciences, 43, pp. 3-24.
 - [1283] D. MARINESCU AND J. RICE [1987]. *Nonhomogeneous parallel computation I. Synchronization analysis of parallel algorithms*, Tech. Report TR-683, Department of Computer Science, Purdue University.
 - [1284] D. MARINESCU AND J. RICE [1987]. *Synchronization of nonhomogeneous parallel computations*, Proceedings of the SIAM Conference on Parallel Processing for Scientific Computing, December. Also Computer Science Tech. Report CSD-TR-683, Purdue University, May, 1987.
 - [1285] D. MARINESCU AND J. RICE [1988]. *On the effects of synchronization in parallel computing*, Tech. Report CS-TR-750, Department of Computer Science, Purdue University.
 - [1286] A. MARTIN [1980]. *A distributed implementation method for parallel programming*, Information Processing 80, S. H. Lavington, ed., North-Holland, Amsterdam, pp. 309-314.
 - [1287] H. MARTIN [1977]. *A discourse on a new supercomputer, PEPE*, in Kuck et al. [1128], pp. 101-112.
 - [1288] J. MARTIN AND D. MUELLER-WICHARDS [1987]. *Supercomputer performance evaluation: Status and directions*, J. Supercomputing, 1, pp. 87-104.
 - [1289] W. MARTIN, T.-C. WAN, D. POLAND, T. MUDGE, AND T. ABDEL-RAHMAN [1987]. *Monte Carlo photon transport on the NCUBE*, in Heath [858], pp. 454-463.
 - [1290] F. MATSEN AND T. TAJIMA, eds. [1986]. *Supercomputers: Algorithms, Architectures and Scientific Computation*, University of Texas Press.
 - [1291] O. MCBRYAN [1985]. *Computational methods for discontinuities in fluids*, Lectures in Applied Mathematics, vol. 22, American Mathematical Society, pp. 63-79.
 - [1292] O. MCBRYAN [1986]. *Numerical computation on massively parallel hypercubes*, Tech. Report LA-UR-86-4218, Los Alamos National Laboratory.
 - [1293] O. MCBRYAN [1986]. *Using supercomputers as attached processors*, Tech. Report LA-UR-86-3773, Los Alamos National Laboratory.
 - [1294] O. MCBRYAN [1987]. *The Connection Machine: PDE solution on 65,536 processors*, Research Report LA-UR-86-4219, Los Alamos National Laboratory.
 - [1295] O. MCBRYAN [1987]. *Numerical computation on massively parallel hypercubes*, in Heath [858], pp. 706-719.
 - [1296] O. MCBRYAN AND E. VAN DE VELDE [1985]. *Parallel algorithms for elliptic equation solution on the HEP computer*, Proceedings of the Conference on Parallel Processing using the Heterogeneous Element Processor, March 1985, University of Oklahoma.

- [1297] O. MCBRYAN AND E. VAN DE VELDE [1985]. *Parallel algorithms for elliptic equations*, Comm. Pure. & Appl. Math., 38, pp. 769–795.
- [1298] O. MCBRYAN AND E. VAN DE VELDE [1986]. *Elliptic equation algorithms on parallel computers*, Comm. Appl. Numer. Meth., 2, pp. 311–316.
- [1299] O. MCBRYAN AND E. VAN DE VELDE [1986]. *Hypercube programs for computational fluid dynamics*, in Heath [856], pp. 221–243.
- [1300] O. MCBRYAN AND E. VAN DE VELDE [1986]. *The multigrid method on parallel computers*, Multigrid Methods II, W. Hackbusch and U. Trottenberg, eds., vol. 1228 of Lecture Notes in Mathematics, Springer-Verlag, Berlin.
- [1301] O. MCBRYAN AND E. VAN DE VELDE [1987]. *Hypercube algorithms and implementations*, SIAM J. Sci. Statist. Comput., 8, pp. s227–s287.
- [1302] O. MCBRYAN AND E. VAN DE VELDE [1987]. *Matrix and vector operations on hypercube parallel processors*, Parallel Computing, 5, pp. 117–126.
- [1303] J. MCCLELLAN AND D. RUMELHART [1988], *Explorations in Parallel Distributed Processing*, MIT Press.
- [1304] C. MCCORMICK [1982]. *Performance of MSC/NASTRAN on the CRAY computer*, in Cray Research, Inc. [423], pp. 88–98.
- [1305] S. MCCORMICK [1988]. *Adaptive multilevel algorithms on advanced computers*, in McCormick [1306].
- [1306] S. MCCORMICK, ed. [1988]. *Multigrid Methods, Proceedings of the Third Copper Mountain Conference on Multigrid Methods, Copper Mountain, CO, April 6–10, 1987*, Marcel Dekker.
- [1307] S. MCCORMICK AND G. RODRIQUE [1979]. *Multigrid methods for multiprocessor computers*, Tech. Report, Lawrence Livermore Laboratory.
- [1308] L. MCCULLEY AND G. ZAHER [1974], *Heat shield response to conditions of planetary entry computed on the ILLIAC IV*. Unpublished manuscript under NASA Ames Research Center Contract No. 6911.
- [1309] T. McDANIEL [1985]. *Non-linear recurrences and EISPACK*, Tech. Report 511, Center for Supercomputing Research and Development, University of Illinois at Urbana-Champaign, October.
- [1310] B. McDONALD [1980]. *The Chebyshev method for solving non-self-adjoint elliptic equations on a vector computer*, J. Comp. Phys., 35, pp. 147–168.
- [1311] H. MCFADDIN AND J. RICE [1987]. *Parallel and vector problems on the FLEX/32*, Tech. Report CSD-TR-661, Department of Computer Science, Purdue University.
- [1312] D. McGLYNN AND L. SCALES [1984]. *On making the NAG run faster*, in Paddon [1505], pp. 73–89.
- [1313] J. McGRAW AND T. AXELROD [1984]. *Exploiting multiprocessors: Issues and options*, Tech. Report UCRL-91734, Lawrence Livermore National Laboratory, October.
- [1314] J. MCGREGOR AND M. SALANA [1983]. *Finite element computation with parallel VLSI*, Proc. 8th ASCE Conf. Elec. Comp., University of Houston, pp. 540–553.
- [1315] C. MEAD AND L. CONWAY [1979], *Introduction to VLSI Systems*, Addison-Wesley, Reading, PA.
- [1316] P. MEHROTRA AND T. PRATT [1982]. *Language concepts for distributed processing of large arrays*, Proc. of Symp. on Principles of Distributed Computing, Ottawa, Canada, pp. 19–28.
- [1317] R. MEHROTRA AND E. GEHRINGER [1985]. *Superlinear speed-up through randomized algorithms*, Proc. 1985 Int. Conf. Par. Proc., pp. 291–300.
- [1318] U. MEIER [1985]. *A parallel partition method for solving banded systems of linear equations*, Parallel Computing, 2, pp. 33–43.
- [1319] U. MEIER [1986]. *Two parallel SOR variants of the Schwartz alternating procedure*, Parallel Computing, 3, pp. 205–215.

- [1320] U. MEIER AND A. SAMEH [1987]. *Numerical linear algebra on the CEDAR multiprocessor*, Proc. SPIE, Vol. 826, Advanced Alg. and Arch. for Signal Processing.
- [1321] R. MELHEM [1983]. *An abstract systolic model and its application to the design of finite element systems*, Tech. Report ICMA-83-66, Institute for Computational Mathematics and Applications, University of Pittsburgh.
- [1322] R. MELHEM [1985]. *Formal analysis of a systolic system for finite element matrices*, J. Comput. System Sci., 31, pp. 1-27.
- [1323] R. MELHEM [1985]. *On the design of a pipelined/systolic finite element system*, Computers and Structures, 20, pp. 67-76.
- [1324] R. MELHEM [1986]. *Application of data driven networks to sparse matrix multiplication*, Proc. 1986 Int. Conf. Par. Proc., pp. 758-761.
- [1325] R. MELHEM [1986]. *Toward efficient implementations of PCCG methods on vector supercomputers*, Int. J. Supercomputer Appl., 1, pp. 70-98.
- [1326] R. MELHEM [1987]. *Determination of stripe structures for finite element matrices*, SIAM J. Numer. Anal., 24(6), pp. 1419-1433.
- [1327] R. MELHEM [1987]. *An efficient implementation of the SSOR/PCCG method on vector computers*, in Kartashev and Kartashev [1051], pp. 470-477.
- [1328] R. MELHEM [1987]. *Iterative solution of sparse linear systems on systolic arrays*, Proc. 1987 Int. Conf. Par. Proc., pp. 560-563.
- [1329] R. MELHEM [1987]. *Parallel Gauss-Jordan elimination for the solution of dense linear systems*, Parallel Computing, 4, pp. 339-344.
- [1330] R. MELHEM [1987]. *A study of data interlock in computational networks for sparse matrix multiplication*, IEEE Trans. Comput., 36, pp. 1101-1107.
- [1331] R. MELHEM [1988]. *Iterative solutions of sparse linear systems on systolic arrays*, Tech. Report ICMA-87-105, University of Pittsburgh.
- [1332] R. MELHEM [1988]. *A modified frontal technique suitable for parallel systems*, SIAM J. Sci. Statist. Comput., 9, pp. 289-304.
- [1333] R. MELHEM [1988]. *Parallel solution of linear systems with striped sparse matrices*, Parallel Computing, 6, pp. 145-184.
- [1334] R. MELHEM AND K. RAMARO [1988]. *Multicolor reordering of sparse matrices resulting from irregular grids*, ACM Trans. Math. Softw., 14, pp. 117-138.
- [1335] R. MELHEM AND W. RHEINBOLDT [1984]. *A mathematical model for the verification of systolic networks*, SIAM J. Comput., 13, pp. 341-365.
- [1336] L. MELKEMI AND M. TCHUENTE [1987]. *Complexity of matrix product on a class of orthogonally connected systolic arrays*, IEEE Trans. Comput., C-36, pp. 615-619.
- [1337] D. MELSON AND J. KELLER [1983]. *Experiences in using the CYBER 203 and CYBER 205 for three-dimensional transonic flow calculations*, Paper 83-0500, AIAA. AIAA 21st Aerospace Sciences Meeting, January. Also in Control Data Corp. [411].
- [1338] N. MELSON [1986]. *Vectorizable multigrid algorithms for transonic-flow calculations*, Appl. Math. & Comp., 19(1-4), pp. 217-238. (Special Issue, Proceedings of the Second Copper Mountain Conference on Multigrid Methods, Copper Mountain, CO, S. McCormick, ed.).
- [1339] R. MENDEZ [1984]. *Benchmark on Japanese-American supercomputers — Preliminary results*, IEEE Trans. Comput., C-35, p. 374. An expanded version appeared in the SIAM News 17, No. 2, March, 1984, p. 3.
- [1340] M. MERRIAM [1985]. *On the factorization of block-tridiagonals without storage constraints*, SIAM J. Sci. Statist. Comput., 6, pp. 182-192.
- [1341] M. MERRIAM [1986]. *Application of data flow concepts to a multigrid solver for the Euler equations*, Appl. Math. & Comp., 19(1-4), pp. 239-264. (Special Issue, Proceedings of the Second Copper Mountain Conference on Multigrid Methods, Copper Mountain, CO, S. McCormick, ed.).
- [1342] G. MEURANT [1984]. *The block preconditioned conjugate gradient method on vector computers*,

- BIT, 24, pp. 623–633.
- [1343] G. MEURANT [1987]. *Multitasking the conjugate gradient method on the CRAY X-MP/48*, Parallel Computing, 5, pp. 267–280.
- [1344] G. MEURANT [1988]. *Domain decomposition versus block preconditioning*, in Glowinski et al. [761], pp. 231–249.
- [1345] G. MEYER [1977]. *Effectiveness of multiprocessor networks for solving the nonlinear Poisson equation*, in Kuck et al. [1128], pp. 323–326.
- [1346] G. MEYER AND L. PODRAZIK [1987]. *A parallel first-order linear recurrence solver*, J. Par. Dist. Comp., 4, pp. 117–132.
- [1347] G. MEYER AND L. PODRAZIK [1987]. *Parallel implementations of gradient based iterative algorithms for a class of discrete optimal control problems*, Proc. 1987 Int. Conf. Par. Proc., pp. 491–494.
- [1348] R. MEYER [1986]. *Numerical algorithms on the Crystal multicomputer*, Comm. Appl. Numer. Meth., 2, pp. 251–254.
- [1349] J. MEZO AND W. SYMES [1987]. *Domain decomposition algorithms for linear hyperbolic equations*, Tech. Report 87-20, Department of Mathematical Sciences, Rice University, August.
- [1350] P. MICHEELSE [1987]. *Solution methods for bidiagonal and tridiagonal linear systems for parallel and vector computers*, Tech. Report 87-04, Delft University of Technology, Delft.
- [1351] P. MICHEELSE AND H. VAN DER VORST [1986]. *Data transport in Wang's partition method*, Tech. Report 86-32, Delft University of Technology, Delft.
- [1352] P. MICHEELSE AND H. VAN DER VORST [1988]. *Data transport in Wang's partition method*, Parallel Computing, 7, pp. 87–96.
- [1353] H. MIERENDORFF [1988]. *Parallelization of multigrid methods with local refinements for a class of nonshared memory systems*, in McCormick [1306], pp. 449–465.
- [1354] J. MIKLOSKO [1984]. *Complexity of parallel algorithms*, in Miklosko and Kotov [1357], pp. 45–63.
- [1355] J. MIKLOSKO [1984]. *Correlation of algorithms, software and hardware of parallel computers*, in Miklosko and Kotov [1357], pp. 359–395.
- [1356] J. MIKLOSKO [1984]. *Synthesis of parallel numerical algorithms*, in Miklosko and Kotov [1357], pp. 13–43.
- [1357] J. MIKLOSKO AND V. KOTOV, eds. [1984]. *Algorithms, Software and Hardware of Parallel Systems*, Springer-Verlag, Berlin.
- [1358] R. MILLER [1974]. *A comparison of some theoretical models of parallel computation*, IEEE Trans. Comput., C-22, pp. 710–717.
- [1359] R. MILLER AND Q. STOUT [1985]. *Varying diameter and problem size in mesh-connected computers*, Proc. 1985 Int. Conf. Par. Proc., pp. 697–699.
- [1360] R. MILLSTEIN [1973]. *Control structures in Illiac IV Fortran*, Comm. ACM, 16, pp. 622–627.
- [1361] M. MINSKY [1970]. *Form and content in computer science*, J. ACM, 17, pp. 197–215.
- [1362] M. MINSKY AND S. PAPERT [1971]. *On some associative, parallel and analog computations*, Associative Information Techniques, E. Jacks, ed., Elsevier, NY.
- [1363] W. MIRANKER [1971]. *A survey of parallelism in numerical analysis*, SIAM Rev., 13, pp. 524–547.
- [1364] W. MIRANKER [1978]. *Parallel methods for solving equations*, Math. Comp. Simul., 20, pp. 93–101.
- [1365] W. MIRANKER [1979]. *Hierarchical relaxation*, Computing, 23, pp. 267–285.
- [1366] W. MIRANKER AND W. LINIGER [1967]. *Parallel methods for the numerical integration of ordinary differential equations*, Math. Comp., 21, pp. 303–320.
- [1367] W. MIRANKER AND A. WINKLER [1984]. *Spacetime representations of computational structures*, Computing, 32, pp. 93–114.
- [1368] A. MIRIN [1987]. *Experiences parallelizing a 3-D MHD code*, Annual Controlled Fusion Theory Conference, San Diego, CA.

- [1369] A. MIRIN [1987]. *Multiprocessing efficiency of 3-D MHD calculations on the NMFECC Cray-2*, American Physical Society Division of Plasma Physics Meeting, San Diego, CA. Paper 6S8.
- [1370] A. MIRIN [1987]. *Predicting multitasking overlap on the NMFECC Cray-2*, Twelfth Conf. on Numerical Simulation of Plasmas, San Francisco, CA. Paper CM3.
- [1371] A. MIRIN [1988]. *Predicting multiprocessing efficiency on the Cray multiprocessors in a time-sharing environment/application to a 3-D magnetohydrodynamics code*, Tech. Report UCRL-97580, Lawrence Livermore National Laboratory. Submitted to Computers in Phys.
- [1372] N. MISSIRLIS [1984]. *A parallel iterative method for solving a class of linear systems*, in Feilmeier et al. [623], pp. 181–189.
- [1373] N. MISSIRLIS [1985]. *A parallel iterative system solver*, Lin. Alg. & Appl., 65, pp. 25–44.
- [1374] N. MISSIRLIS [1987]. *Scheduling parallel iterative methods on multiprocessor systems*, Parallel Computing, 5, pp. 295–302.
- [1375] N. MISSIRLIS AND D. EVANS [1984]. *A second order iterative scheme suitable for parallel implementation*, in Vichnevetsky and Stepleman [1908], pp. 203–206.
- [1376] N. MISSIRLIS AND F. TJAFERIS [1988]. *Parallel matrix factorizations on a shared memory MIMD computer*, Proc. Int. Conf. Supercomputing '87, Springer-Verlag.
- [1377] D. MITRA [1987]. *Asynchronous relaxations for the numerical solution of differential equations by parallel processors*, SIAM J. Sci. Statist. Comput., 8, pp. s43–s58.
- [1378] K. MIURA [1971]. *The block iterative method for Illiac IV*, Doc. 41, Center for Advanced Computation, University of Illinois at Urbana-Champaign.
- [1379] K. MIURA AND K. UCHIDA [1984]. *FACOM vector processor VP-100/VP-200*, in Kowalik [1111], pp. 127–138.
- [1380] J. MODI [1982]. *Jacobi Methods for Eigenvalue and Related Problems in a Parallel Computing Environment*, PhD dissertation, University of London.
- [1381] J. MODI AND G. BOWGEN [1984]. *Implementation of QR factorization on the DAP using Householder transformations*, Tech. Report CUED/F-CAMS/TR.241, Cambridge University Engineering Department, Cambridge, UK.
- [1382] J. MODI AND G. BOWGEN [1984]. *QR factorization and singular value decomposition on the DAP*, in Paddon [1505], pp. 209–228.
- [1383] J. MODI AND M. CLARKE [1984]. *An alternative Givens ordering*, Numer. Math., 43, pp. 83–90.
- [1384] J. MODI, R. DAVIES, AND D. PARKINSON [1984]. *Extension of the parallel Jacobi method to the generalized eigenvalue problem*, in Feilmeier et al. [623], pp. 191–197.
- [1385] J. MODI AND D. PARKINSON [1982]. *Study of Jacobi methods for eigenvalues and singular value decomposition on DAP*, Comput. Phys. Comm., 26, pp. 317–320.
- [1386] J. MODI AND I. PRYCE [1984]. *Mobile Jacobi schemes for parallel computation*, Tech. Report CUED/F-CAMS/TR.242, Cambridge University Engineering Department, Cambridge, UK.
- [1387] J. MODI AND I. PRYCE [1985]. *Efficient implementation of Jacobi's method on the DAP*, Numer. Math., 46, pp. 443–454.
- [1388] D. MODIANO [1987]. *Performance of a common CFD loop on two parallel architectures*, Tech. Report CFDL-TR-87-11, Massachusetts Institute of Technology.
- [1389] J. MOHAN [1984]. *Performance of parallel programs: Model and analyses*, Tech. Report CMU-CS-84-141, Department of Computer Science, Carnegie-Mellon University, Pittsburgh, PA.
- [1390] I. MOLCHANOV [1985]. *Applications software of the ES multiprocessor computing complex*, Computational Processes and Systems, Izdatel'stvo Nauka, Moscow, pp. 99–108.
- [1391] D. MOLDOVAN, C. WU, AND J. FORTES [1984]. *Mapping an arbitrarily large QR algorithm into a fixed size VLSI array*, Proc. 1984 Int. Conf. Par. Proc., pp. 365–373.
- [1392] C. MOLER [1986]. *Matrix computation on distributed memory multiprocessors*, in Heath [856], pp. 181–195.

- [1393] R. MONTOYE AND D. LAWRIE [1982]. *A practical algorithm for the solution of triangular systems on a parallel processing system*, IEEE Trans. Comput., C-31, pp. 1076–1082.
- [1394] J. MOONEY [1986]. *Simulation of a reaction-diffusion system on large dimpled surfaces using a vector computer*, Math. Comp. Simul., 28, pp. 209–226.
- [1395] M. MOORE, R. HIROMOTO, AND O. LUBECK [1984]. *Experiences with the Denelcor HEP*, Parallel Computing, 1, pp. 197–206.
- [1396] W. MOORE AND K. STEIGLITZ [1984]. *Efficiency of parallel processing in the solution of Laplace's equation*, in Vichnevetsky and Stepleman [1980], pp. 252–257.
- [1397] J.-M. MORF AND J.-M. DELOSME [1981]. *Matrix decompositions and inversions via elementary signature-orthogonal transformations*, ISSM Int. Symp. Mini & Microcomputers in Control and Measurements, San Francisco.
- [1398] A. MORGAN AND L. WATSON [1987]. *Solving polynomial systems of equations on a hypercube*, in Heath [1985], pp. 501–511.
- [1399] K. MORIARTY, M. HARAGUCHI, AND C. PANGALI [1984]. *Efficient implementation of the SU(3) lattice gauge theory algorithm on the Fujitsu VP200 vector processor*, Comput. Phys. Comm., 34, pp. 1–8.
- [1400] K. MORIARTY AND D. KUBA [1985]. *Efficient multi-tasking of the SU(3) lattice gauge theory algorithm on the CRAY-X-MP*, Comput. Phys. Comm., 36, pp. 351–362.
- [1401] P. MORICE [1972]. *Calcul parallèle et décomposition dans la résolution d'équations aux dérivées partielles de type elliptique*. IRIA, Rocquencourt, France.
- [1402] R. MORISON AND S. OTTO [1988]. *The scattered decomposition for finite elements*, J. Sci. Comput., 2, pp. 59–76.
- [1403] M. MORJARIA AND G. MAKINSON [1984]. *Unstructured sparse matrix vector multiplication on the DAP*, in Paddon [1985], pp. 157–166.
- [1404] T. MOTO-OKA, ed. [1982]. *Fifth Generation Computer Systems*, North-Holland, New York.
- [1405] T. MOTO-OKA [1984]. *Japanese project on fifth generation computer systems*, in Kowalik [1984], pp. 99–116.
- [1406] H. MUHLENBEIN AND S. WARHANT [1985]. *Concurrent multigrid methods in an object-oriented environment*, Proc. 1985 Int. Conf. Par. Proc., pp. 143–146.
- [1407] H. MUKAI [1981]. *Parallel algorithms for solving systems of nonlinear equations*, Comp. Math. Appl., 7, pp. 235–250.
- [1408] H. MÜLLER, W. SCHÖNAUER, AND E. SCHNEPF [1985]. *Design considerations for the linear solver LINSOL on a CYBER 205*, Supercomputer Applications, A. Emmen, ed., North-Holland, Amsterdam, pp. 39–49.
- [1409] H. MÜLLER, W. SCHÖNAUER, AND E. SCHNEPF [1985]. *Vergleich verschiedener Lösungsverfahren für lineare Gleichungen mit Diagonalspeicherung auf der CYBER 205*. Mitteilungen Nr. 3, Gesellschaft für Informatik, Parallel-algorithmen und -Rechnerstrukturen (PARS).
- [1410] D. MULLER-WICHANDS AND W. GENTZSCH [1982]. *Performance comparisons among several parallel and vector computers on a set of fluid flow problems*, Tech. Report IB 262-82 RO1, DFVLR, Goettingen.
- [1411] W. MYERS [1986]. *Getting the cycles out of a supercomputer*, Computer, 19(3), pp. 89–92.
- [1412] K. NAGEL [1979]. *Weather simulation with the multi-microprocessor system SMS 701*, Military Electronics Defense EXPO 78, Proceedings of the Conference, Wiesbaden, West Germany, Oct. 3–5, Interario, S.A. Geneva, pp. 60–67.
- [1413] V. NAIK AND M. PATRICK [1987]. *Analysis of communication requirements of sparse Cholesky factorization with nested dissection ordering*, Proc. of the Third SIAM Conference of Parallel Processing for Scientific Computing, Los Angeles.
- [1414] V. NAIK AND M. PATRICK [1988]. *Data traffic reduction schemes for sparse Cholesky factorizations*, Tech. Report 88-14, ICASE, NASA Langley Research Center, Hampton, VA.
- [1415] V. NAIK AND S. TA'ASAN [1987]. *Implementation of multigrid methods for solving Navier-*

- Stokes equations on a multiprocessor system*, Tech. Report 87-37, ICASE, NASA Langley Research Center, Hampton, VA.
- [1416] V. NAIK AND S. TA'ASAN [1987]. *Performance studies of the multigrid algorithms implemented on hypercube multiprocessor systems*, in Heath [858], pp. 720-729.
 - [1417] K. NAKAJIMA [1984]. *A graph theoretical approach to parallel triangulation of a sparse asymmetric matrix*, Proceedings of 1984 Conf. on Information Science and Systems.
 - [1418] N. NANDAKUMAR [1986]. *Polynomial preconditioning of symmetric indefinite systems*, Tech. Report 580, Center for Supercomputing Research and Development, University of Illinois at Urbana-Champaign, June.
 - [1419] J. NASH AND S. HANSEN [1988]. *Modified Fadeeva algorithm for concurrent execution of linear algebraic operations*, IEEE Trans. Comput., 37, pp. 129-137.
 - [1420] J. NAVARRO, J. LLABERIA, AND M. VALERO [1986]. *Solving matrix problems with no size restriction on a systolic array processor*, Proc. 1986 Int. Conf. Par. Proc., pp. 676-683.
 - [1421] J. NAVARRO, J. LLABERIA, AND M. VALERO [1987]. *Partitioning: An essential step in mapping algorithms*, Computer, 20(7), pp. 77-89.
 - [1422] I. NAVON, P. PHUA, AND M. RAMAMURTHY [1987]. *Vectorization of conjugate-gradient methods for large-scale minimization*, Tech. Report FSU-SCRI-87-43, Supercomputer Computations Research Institute, Florida State University, Tallahassee, FL, August.
 - [1423] B. NETA AND H.-M. TAI [1985]. *LU factorization on parallel computers*, Comput. Math. Appl., 11, pp. 573-580.
 - [1424] M. NEUMANN AND R. PLEMMONS [1987]. *Convergence of parallel multisplitting iterative methods for M-matrices*, Lin. Alg. & Appl., 88, pp. 559-575.
 - [1425] K. NEVES [1982]. *Mathematical libraries for vector computers*, Comput. Phys. Comm., 26, pp. 303-310.
 - [1426] K. NEVES [1984]. *Vectorization of scientific software*, in Kowalik [1111], pp. 277-291.
 - [1427] E. NG, S. THOMPSON, AND P. TUTTLE [1987]. *Experiments with method of lines solvers on a shared-memory parallel computer*, in Vichnevetsky and Stepleman [1909], pp. 161-166.
 - [1428] L. NI AND K. HWANG [1983]. *Pipelined evaluation of first-order recurrence systems*, Proc. 1983 Int. Conf. Par. Proc., pp. 537-544.
 - [1429] D. NICOL [1987]. *Mapping a battlefield simulation onto message-passing parallel architectures*, Tech. Report 87-51, ICASE, NASA Langley Research Center, Hampton, VA.
 - [1430] D. NICOL [1987]. *Performance issues for domain-oriented time-driven distributed simulations*, Tech. Report 87-50, ICASE, NASA Langley Research Center, Hampton, VA.
 - [1431] D. NICOL [1988]. *Parallel algorithms for mapping pipelined and parallel computations*, Tech. Report 88-2, ICASE, NASA Langley Research Center, Hampton, VA.
 - [1432] D. NICOL AND P. REYNOLDS [1987]. *Optimal dynamic remapping of parallel computations*, Tech. Report 87-49, ICASE, NASA Langley Research Center, Hampton, VA.
 - [1433] D. NICOL AND J. SALTZ [1987]. *Principles for problem aggregation and assignment in medium scale multiprocessors*, Tech. Report 87-39, ICASE, NASA Langley Research Center, Hampton, VA.
 - [1434] D. NICOL AND J. SALTZ [1987]. *Schedules for mapping irregular parallel computations*, Tech. Report 87-52, ICASE, NASA Langley Research Center, Hampton, VA, September.
 - [1435] D. NICOL AND J. SALTZ [1988]. *Dynamic remapping of parallel computations with varying resource demands*, IEEE Trans. Comput., 37(9), pp. 1073-1087.
 - [1436] D. NICOL AND F. WILLARD [1987]. *Problem size, parallel architecture and optimal speedup*, Proc. 1987 Int. Conf. Par. Proc., pp. 347-354.
 - [1437] J. NIEVERGELT [1964]. *Parallel methods for integrating ordinary differential equations*, Comm. ACM, 7, pp. 731-733.
 - [1438] A. NOBILE AND V. ROBERTO [1986]. *Efficient implementation of multidimensional and fast Fourier transforms on a CRAY X-MP*, Comput. Phys. Comm., 40, pp. 189-202.
 - [1439] J. NOCEPURENKO [1988]. *A polynomially stable fast parallel algorithm for tridiagonal systems*,

- USSR Comput. Math. & Math. Phys., 26.4, pp. 1-5.
- [1440] T. NODERA [1984]. *PCG method for four color ordered finite difference schemes*, in Vichnevetsky and Stepleman [1908], pp. 222-228.
- [1441] J. NOLEN, D. KUBA, AND M. KASCIC [1979]. *Application of vector processors to the solution of finite difference equations*, Fifth Symposium on Reservoir Simulation. Also in SPEJ., August 1981.
- [1442] J. NOLEN AND P. STANAT [1981]. *Reservoir simulation on vector processing computers*, Paper 9649, SPE. SPE Middle East Oil Tech. Conf, Manama, Bahrain.
- [1443] A. NOOR, ed. [1983]. *Impact of New Computing Systems on Computational Mechanics*, The American Society of Mechanical Engineers.
- [1444] A. NOOR AND R. FULTON [1975]. *Impact of the CDC-STAR-100 computer on finite-element systems*, J. Structural Div., ASCE, 101(ST4), pp. 287-296.
- [1445] A. NOOR AND S. HARTLEY [1978]. *Evaluation of element stiffness matrices on CDC STAR-100 computer*, Computers and Structures, 9, pp. 151-161.
- [1446] A. NOOR, H. KAMEL, AND R. FULTON [1978]. *Substructuring techniques — Status and projections*, Computers and Structures, 8, pp. 621-632.
- [1447] A. NOOR AND J. LAMBIOTTE [1978]. *Finite element dynamic analysis on the CDC STAR-100 computer*, Computers and Structures, 10, pp. 7-19.
- [1448] A. NOOR AND J. PETERS [1986]. *Element stiffness computation on CDC Cyber 205 computer*, Comm. Appl. Numer. Meth., 2, pp. 317-328.
- [1449] A. NOOR, O. STORAASLI, AND R. FULTON [1983]. *Impact of new computing systems on finite element computations*, in Noor [1443], pp. 1-32.
- [1450] A. NOOR AND S. VOIGT [1975]. *Hypermatrix scheme for the STAR-100 computer*, Computers and Structures, 5, pp. 287-296.
- [1451] C. NORRIE [1984]. *Supercomputers for superproblems: An architectural introduction*, Computer, 17(3), pp. 62-74.
- [1452] D. NORRIE [1984]. *The finite element method and large scale computation*, Proc. 4th Int. Symp. on Finite Element Methods in Flow Problems, Tokyo, University of Tokyo Press, North-Holland Publishing Co., pp. 947-954.
- [1453] A. NORTON AND G. PFISTER [1985]. *A methodology for predicting multiprocessor performance*, Proc. 1985 Int. Conf. Par. Proc., pp. 772-781.
- [1454] A. NORTON AND A. SILBERGER [1987]. *Parallelization and performance analysis of the Cooley-Tukey FFT algorithm for shared-memory architectures*, IEEE Trans. Comput., C-36, pp. 581-591.
- [1455] D. NOSENCHUCK, D. KRIST, AND T. ZANG [1988]. *On multigrid methods for the Navier-Stokes computer*, in McCormick [1306].
- [1456] D. NOSENCHUCK AND M. LITTMAN [1986]. *The coming of age of the parallel processing supercomputer*, 23rd Annual Space Conf., Kennedy Space Center, Florida, April.
- [1457] D. NOSENCHUCK AND M. LITTMAN [1986]. *The Navier-Stokes computer*, Symp. on Future Directions in Computational Mechanics, ASME Winter Meeting, December.
- [1458] D. NOSENCHUCK, M. LITTMAN, AND W. FLANNERY [1986]. *Two-dimensional non-steady viscous flow simulation on the Navier-Stokes computer mini-node*, J. Sci. Comput., 1, pp. 53-73.
- [1459] B. NOUR-OMID AND K. PARK [1987]. *Solving structural mechanics problems on the Caltech hypercube*, Comput. Meth. Appl. Mech. Engrg., 61, pp. 161-176.
- [1460] B. NOUR-OMID, B. PARLETT, AND A. RAEFSKY [1988]. *Comparison of Lanczos with conjugate gradient using element preconditioning*, in Glowinski et al. [761], pp. 250-260.
- [1461] B. NOUR-OMID, A. RAEFSKY, AND G. LYZENGA [1987]. *Solving finite element equations on concurrent computers*, Proceedings of the ASME Symposium on Parallel Computations and their Impact on Mechanics, December 13-18.
- [1462] R. NUMRICH, ed. [1985]. *Supercomputer Applications Symposium, Proceedings of Symposium*

at Purdue University, October 31 - November 1, 1984.

- [1463] W. OAKES AND R. BROWNING [1979]. *Experience running ADINA on CRAY-1*, Proc. ADINA Conf. Report 82448-9, Massachusetts Institute of Technology.
- [1464] S. O'DONNELL, P. GEIGER, AND M. SCHULTZ [1983]. *Solving the Poisson equation on the FPS-164*, Tech. Report YALEU/DCS/RR-292, Department of Computer Science, Yale University.
- [1465] S. O'DONNELL AND V. ROKHLIN [1987]. *A fast algorithm for the numerical evaluation of conformal mappings*, Tech. Report YALEU/DCS/RR-554, Department of Computer Science, Yale University, July.
- [1466] W. OED AND O. LANGE [1983]. *The solution of linear recurrence relations on pipelined processors*, Proc. 1983 Int. Conf. Par. Proc., pp. 545-547.
- [1467] W. OED AND O. LANGE [1984]. *Transforming linear recurrence relations for vector processors*, in Feilmeier et al. [623], pp. 211-216.
- [1468] W. OED AND O. LANGE [1985]. *On the effective bandwidth of interleaved memories in vector processor systems*, Proc. 1985 Int. Conf. Par. Proc., pp. 33-40.
- [1469] W. OED AND O. LANGE [1985]. *On the effective bandwidth of interleaved memories in vector processor systems*, IEEE Trans. Comput., C-34, pp. 949-957.
- [1470] W. OED AND O. LANGE [1986]. *Modeling, measurement, and simulation of memory interference in the CRAY X-MP*, Parallel Computing, 3, pp. 343-358.
- [1471] M. OGURA, M. SHER, AND J. ERICKSEN [1972]. *A study of the efficiency of ILLIAC IV in hydrodynamic calculations*, Tech. Report 59, Center for Advanced Computation, University of Illinois at Urbana-Champaign.
- [1472] D. O'LEARY [1984]. *Ordering schemes for parallel processing of certain mesh problems*, SIAM J. Sci. Statist. Comput., 5, pp. 620-632.
- [1473] D. O'LEARY [1987]. *Parallel implementation of the block conjugate gradient algorithm*, Parallel Computing, 5, pp. 127-140.
- [1474] D. O'LEARY [1987]. *Systolic arrays for matrix transpose and other reorderings*, IEEE Trans. Comput., C-36, pp. 117-122.
- [1475] D. O'LEARY AND G. STEWART [1985]. *Data-flow algorithms for parallel matrix computations*, Comm. ACM, 28, pp. 840-853.
- [1476] D. O'LEARY AND G. STEWART [1986]. *Assignment and scheduling in parallel matrix factorization*, Lin. Alg. & Appl., 77, pp. 275-300.
- [1477] D. O'LEARY AND G. STEWART [1987]. *From determinacy to systolic arrays*, IEEE Trans. Comput., C-36, pp. 1355-1359.
- [1478] D. O'LEARY, G. STEWART, AND R. VAN DE GEIJN [1986]. *DOMINO: A message passing environment for parallel computations*, Tech. Report TR-1648, Department of Computer Science, University of Maryland, April.
- [1479] D. O'LEARY AND R. WHITE [1985]. *Multi-splittings of matrices and parallel solution of linear systems*, SIAM J. Algebraic Discrete Methods, 6, pp. 630-640.
- [1480] P. OLEINICK [1978]. *The Implementation of Parallel Algorithms on an Asynchronous Multiprocessor*, PhD dissertation, Carnegie-Mellon University, Department of Computer Science.
- [1481] P. OLEINICK [1982]. *Parallel Algorithms on a Multiprocessor*, UMI Research Press.
- [1482] P. OLEINICK AND S. FULLER [1978]. *The implementation of a parallel algorithm on C.mmp*, Tech. Report CMU-CS-78-125, Department of Computer Science, Carnegie-Mellon University.
- [1483] J. OLIGER [1986]. *Parallelism and uncertainty in scientific computations*, International Congress on Computational and Applied Mathematics, University of Leuven, Belgium.
- [1484] K. ONAGA AND T. TAKECHI [1986]. *A wavefront algorithm for LU decomposition of a partitioned matrix on VLSI processor arrays*, J. Par. Dist. Comp., 3, pp. 137-157.
- [1485] T. OPPE AND D. KINCAID [1987]. *Numerical experiments with a parallel conjugate gradient method*, Tech. Report CNA-208, Center for Numerical Analysis, University of Texas at

Austin.

- [1486] T. OPPE AND D. KINCAID [1987]. *The performance of ITPACK on vector computers for solving large sparse linear systems arising in sample oil reservoir simulation problems*, Comm. Appl. Numer. Meth., 3, pp. 23–30.
- [1487] T. OPSAHL [1984]. *DAP-TRAC: A Practical Application of Parallel Processing to a Large Engineering Code*, PhD dissertation, University of London.
- [1488] T. OPSAHL AND D. PARKINSON [1986]. *An algorithm for solving sparse sets of linear equations with an almost tridiagonal structure on SIMD computers*, Proc. 1986 Int. Conf. Par. Proc., pp. 369–374.
- [1489] D. ORBITS [1978]. *A Cray-1 timing simulator*, Tech. Report 118, Systems Engineering Laboratory, University of Michigan.
- [1490] D. ORBITS AND D. CALAHAN [1976]. *Data flow considerations in implementing a full matrix solver with backing store on the CRAY-1*, Tech. Report 98, Systems Engineering Laboratory, University of Michigan.
- [1491] D. ORBITS AND D. CALAHAN [1978]. *A CRAY-1 simulator and its application to development of high performance codes*, Proc. LASL Workshop on Vector and Parallel Processors.
- [1492] S. ORSZAG AND A. PATERA [1981]. *Calculation of Von Karman's constant for turbulent channel flow*, Phys. Rev. Lett., 47, pp. 832–835.
- [1493] S. ORSZAG AND A. PATERA [1981]. *Subcritical transition to turbulence in planar shear flows*, Transition and Turbulence, R. Meyer, ed., Academic Press, New York, pp. 127–146.
- [1494] S. ORSZAG AND A. PATERA [1983]. *Secondary instability of wall bounded shear flows*, J. Fluid Mech., 128, pp. 347–385.
- [1495] J. ORTEGA [1987]. *The ijk forms of factorization methods I. Vector computers*, Parallel Computing, 7(2), pp. 135–148.
- [1496] J. ORTEGA [1988], *Introduction to Parallel and Vector Solution of Linear Systems*, Plenum Press.
- [1497] J. ORTEGA AND C. ROMINE [1988]. *The ijk forms of factorization II. Parallel systems*, Parallel Computing, 7(2), pp. 149–162.
- [1498] J. ORTEGA AND R. VOIGT [1977]. *Solution of partial differential equations on vector computers*, Proc. 1977 Army Numerical Analysis and Computers Conference, pp. 475–525.
- [1499] J. ORTEGA AND R. VOIGT [1985]. *Solution of partial differential equations on vector and parallel computers*, SIAM Rev., 27, pp. 149–240.
- [1500] J. ORTEGA AND R. VOIGT [1987]. *A bibliography on parallel and vector numerical algorithms*, Tech. Report I-3, ICASE, NASA Langley Research Center, Hampton, VA.
- [1501] N. OSTLUND [1985]. *Waterloop V2/64: A highly parallel machine for numerical computation*, Comput. Phys. Comm., 37, pp. 109–117.
- [1502] N. OSTLUND, P. HIBBARD, AND R. WHITESIDE [1982]. *A case study in the application of a tightly coupled multi-processor to scientific computations*, in Rodrigue [1636], pp. 375–364.
- [1503] G. OSTROUCHOV [1987]. *Parallel computing on a hypercube: An overview of the architecture and some applications*, Proc. 19th Symp. on the Interface of Computer Science and Statistics, M. Heiberger, ed., Washington, D.C., American Statistical Association, pp. 27–32.
- [1504] Y. OYANGAI [1986]. *An incomplete LDU decomposition of lattice fermions and its application to conjugate residual methods*, Comput. Phys. Comm., 42, pp. 333–344.
- [1505] D. PADDON, ed. [1984]. *Supercomputers and Parallel Computation*, Clarendon Press, Oxford.
- [1506] Y. PAKER [1977]. *Application of microprocessor networks for the solution of diffusion equations*, Math. Comp. Simul., 19, pp. 23–27.
- [1507] Y. PAKER [1983], *Multi-Microprocessor Systems*, Academic Press, New York, NY.
- [1508] J. PALMER [1974]. *Conjugate Direction Methods and Parallel Computing*, PhD dissertation, Stanford University, Department of Computer Science.
- [1509] V. PAN AND J. REIF [1985]. *Efficient parallel solution of linear systems*, Proc. 17th Annual ACM Symposium on Theory of Computing, pp. 143–152.

- [1510] R. PARGAS [1982]. *Parallel Solution of Elliptic Partial Differential Equations on a Tree Machine*, PhD dissertation, University of North Carolina, Chapel Hill, Department of Computer Science.
- [1511] D. PARKER [1980]. *Notes on shuffle/exchange type switching networks*, IEEE Trans. Comput., C-29, pp. 213–222.
- [1512] D. PARKINSON [1976]. *The ICL Distributed Array Processor DAP*, Computational Methods in Classical and Quantum Physics, M. Hooper, ed., Adv. Pub. Ltd.
- [1513] D. PARKINSON [1982]. *The Distributed Array Processor (DAP)*, Comput. Phys. Comm., 28, pp. 325–336.
- [1514] D. PARKINSON [1982]. *Using the ICL DAP*, Comput. Phys. Comm., 26, pp. 227–232.
- [1515] D. PARKINSON [1984]. *Experience in exploiting large scale parallelism*, in Kowalik [1111], pp. 247–256.
- [1516] D. PARKINSON [1984]. *The solution of N linear equations using P processors*, in Feilmeier et al. [623], pp. 81–87.
- [1517] D. PARKINSON [1986]. *Parallel efficiency can be greater than unity*, Parallel Computing, 3, pp. 261–262.
- [1518] D. PARKINSON [1987]. *Organizational aspects of using parallel computers*, Parallel Computing, 5, pp. 75–84.
- [1519] D. PARKINSON AND H. LIDDELL [1982]. *The measurement of performance on a highly parallel system*, IEEE Trans. Comput., C-31, pp. 32–37.
- [1520] D. PARKINSON AND M. WUNDERLICH [1984]. *A compact algorithm for Gaussian elimination over GF(2) implemented on highly parallel computers*, Parallel Computing, 1, pp. 65–73.
- [1521] B. PARLETT, B. NOUR-OMID, AND J. JATVIG [1985]. *Implementation of Lanczos algorithms on vector computers*, in Numrich [1462], pp. 1–18.
- [1522] S. PARTER, ed. [1984]. *Large Scale Scientific Computation*, Academic Press, Orlando, FL.
- [1523] S. PARTER AND M. STEUERWALT [1982]. *Block iterative methods for elliptic and parabolic difference equations*, SIAM J. Numer. Anal., 19, pp. 1173–1195.
- [1524] S. PARTER AND M. STEUERWALT [1985]. *Block iterative methods for elliptic finite element equations*, SIAM J. Numer. Anal., 22, pp. 146–179.
- [1525] S. PARTER AND S. STEUERWALT [1980]. *On k -line and $k \times k$ block iterative schemes for a problem arising in 3-D elliptic difference equations*, SIAM J. Numer. Anal., 17, pp. 823–839.
- [1526] H. PARTRIDGE AND C. BAUSCHLICHER [1986]. *Algorithms vs. architectures for computational chemistry*, Tech. Report TR 86.3, RIACS, NASA Ames Research Center, January.
- [1527] J. PASCIAK [1988]. *Domain decomposition preconditioners for elliptic problems in two and three dimensions: First approach*, in Glowinski et al. [761], pp. 62–72.
- [1528] K. PATEL [1982]. *Parallel computation and numerical optimization*, Tech. Report 129, NOC, Hatfield, Herts.
- [1529] K. PATEL [1984]. *Implementation of a parallel (SIMD) modified Newton algorithm on the ICL DAP*, in Paddon [1505], pp. 229–249.
- [1530] N. PATEL [1983]. *A Fully Vectorized Numerical Solution of the Incompressible Navier-Stokes Equations*, PhD dissertation, Mississippi State University, December.
- [1531] N. PATEL AND H. JORDAN [1984]. *A parallelized point rowwise successive over-relaxation method on a multiprocessor*, Parallel Computing, 1, pp. 207–222.
- [1532] A. PATERA [1986]. *Fast direct Poisson solvers for high order finite element discretization in rectangularly decomposable domains*, J. Comp. Phys., 65, pp. 474–480.
- [1533] M. PATRICK AND T. PRATT [1986]. *Communication oriented programming of parallel iterative solutions of sparse linear systems*, Comm. Appl. Numer. Meth., 2, pp. 255–261.
- [1534] M. PATRICK, D. REED, AND R. VOIGT [1987]. *The impact of domain partitioning on the performance of a shared memory multiprocessor*, Parallel Computing, 5, pp. 211–218.
- [1535] P. PATTON [1985]. *Multiprocessors: Architecture and applications*, Computer, 18(6), pp. 929–

940.

- [1536] G. PAUL AND W. WILSON [1978]. *An introduction to VECTRAN and its use in scientific applications programming*, Proc. of LASL Workshop on Vector and Parallel Processors.
- [1537] G. PAWLEY AND G. THOMAS [1982]. *The implementation of lattice calculations on the DAP*, J. Comp. Phys., 47, pp. 165-178.
- [1538] M. PEASE [1967]. *Matrix inversion using parallel processing*, J. ACM, 14, pp. 757-764.
- [1539] M. PEASE [1968]. *An adaptation of the fast Fourier transform for parallel processing*, J. ACM, 15, pp. 252-264.
- [1540] M. PEASE [1977]. *The indirect binary n-cube microprocessor array*, IEEE Trans. Comput., 26(5), pp. 458-473.
- [1541] W. PELKA AND A. PETERS [1986]. *Finite element ground water models implemented on vector computers*, I. J. Num. Meth. Fluids, 6, pp. 913-926.
- [1542] R. PERROTT [1979]. *A standard for supercomputer languages*, in Jesshope and Hockney [972], pp. 291-308.
- [1543] R. PERROTT [1987]. *Language developments for supercomputers*, Supercomputer, 19, pp. 19-26.
- [1544] C. PESKIN [1981]. *Ultracomputer implementation of odd-even cyclic reduction*, Ultracomputer Note 19, Department of Computer Science, New York University, January.
- [1545] F. PETERS [1981]. *Tree machines and divide-and-conquer algorithms*, CONPAR 81, Lecture Notes in Computer Science 111, W. Händler, ed., Berlin, Springer-Verlag, pp. 25-36.
- [1546] F. PETERS [1984]. *Parallel pivoting algorithms for sparse symmetric matrices*, Parallel Computing, 1, pp. 99-110.
- [1547] F. PETERS [1985]. *Parallelism and sparse linear equations*, Sparsity and Its Applications, D. Evans, ed., Cambridge University Press, pp. 285-301.
- [1548] J. PETERSON [1977]. *Petri nets*, ACM Computing Surveys, 9, pp. 223-252.
- [1549] J. PETERSON, J. TUAZON, D. LIEBERMAN, AND M. DANIEL [1985]. *The Mark III hypercube-ensemble concurrent computer*, Proc. 1985 Int. Conf. Par. Proc., pp. 71-73.
- [1550] V. PETERSON [1978]. *Computational aerodynamics and the NASF*, Tech. Report CR-2032, NASA Ames Research Center.
- [1551] V. PETERSON [1984]. *Application of supercomputers to computational aerodynamics*, Tech. Report TM-85965, NASA Ames Research Center.
- [1552] V. PETERSON [1984]. *Impact of computers on aerodynamics research and development*, Proc. IEEE, 72, pp. 68-79.
- [1553] W. PETERSON [1983]. *Vector Fortran for numerical problems on CRAY-1*, Comm. ACM, 26, pp. 1008-1021.
- [1554] G. PFISTER, W. BRANTLEY, D. GEORGE, S. HARVEY, W. KLEINFELDER, K. McAULIFFE, E. MELTON, V. NORTON, AND J. WEISS [1985]. *The IBM research parallel processor prototype (RP3): Introduction and architecture*, Proc. 1985 Int. Conf. Par. Proc., pp. 764-771.
- [1555] G. PFISTER AND V. NORTON [1985]. *Hot spot contention and combining in multistage interconnection networks*, Proc. 1985 Int. Conf. Par. Proc., pp. 790-797.
- [1556] B. PHILLIPPE [1987]. *An algorithm to improve nearly orthonormal sets of vectors on a vector processor*, SIAM J. Algebraic Discrete Methods, 8, pp. 396-403.
- [1557] D. PIERCE [1987]. *Implementing domain decoupled incomplete factorizations and a parallel conjugate gradient method on the Sequent Balance 21000*, Tech. Report ETA-TR-61, Boeing Computer Services, August.
- [1558] D. PIERRE [1973]. *A nongradient minimization algorithm having parallel structure, with implementation for an array processor*, Comput. Elect. Engrg., 1, pp. 3-21.
- [1559] I. PLANDER [1984]. *Parallel processors and multicomputer systems*, in Miklosko and Kotov [1357], pp. 273-321.
- [1560] G. PLATZMAN [1979]. *The ENIAC computations of 1950 — Gateway to numerical weather*

- prediction*, Bull. Amer. Meteor. Soc., 60, pp. 302–312.
- [1561] R. PLEMMONS [1986]. *A parallel block iterative scheme applied to computations in structural analysis*, SIAM J. Algebraic Discrete Methods, 7, pp. 337–347.
 - [1562] C. POLYCHRONOPOULOS [1986]. *On program restructuring, scheduling, and communication for parallel processor systems*, Tech. Report 595, Center for Supercomputing Research and Development, University of Illinois at Urbana-Champaign, August.
 - [1563] C. POLYCHRONOPOULOS AND U. BANERJEE [1986]. *Speedup bounds and processor allocation for parallel programs on multiprocessors*, Proc. 1986 Int. Conf. Par. Proc., pp. 961–968.
 - [1564] E. POOLE [1986]. *Multi-color Incomplete Cholesky Conjugate Gradient Methods on Vector Computers*, PhD dissertation, The University of Virginia, Department of Applied Mathematics.
 - [1565] E. POOLE AND J. ORTEGA [1984]. *Incomplete Choleski conjugate gradient on the CYBER 203/205*, in Numrich [1462], pp. 19–28.
 - [1566] E. POOLE AND J. ORTEGA [1987]. *Multicolor ICCG methods for vector computers*, SIAM J. Numer. Anal., 24, pp. 1394–1418.
 - [1567] W. POOLE AND R. VOIGT [1974]. *Numerical algorithms for parallel and vector computers: An annotated bibliography*, Comp. Rev., 15, pp. 379–388.
 - [1568] D. POPLAWSKI [1988]. *Mapping rings and grids onto the FPS T-series hypercube*, Parallel Computing, 7, pp. 1–10.
 - [1569] P. PORTA [1987]. *Implicit finite difference simulation of an internal flow in a nozzle: An example of a physical application on a hypercube*, Tech. Report YALEU/DCS/RR-553, Department of Computer Science, Yale University.
 - [1570] P. PORTA [1987]. *Implicit finite-difference simulation of an internal flow on a hypercube*, Tech. Report YALEU/DCS/RR-594, Department of Computer Science, Yale University.
 - [1571] T. PORTA [1987]. *A programmable systolic array for factorial data analysis part I. Matrix computations*, Tech. Report YALEU/DCS/RR-542, Department of Computer Science, Yale University.
 - [1572] T. PORTA [1987]. *A programmable systolic array for factorial data analysis part II. The symmetric eigenvalue problem*, Tech. Report YALEU/DCS/RR-543, Department of Computer Science, Yale University.
 - [1573] A. POTHEIN [1988]. *Simplicial cliques, shortest elimination trees and supernodes in sparse Cholesky factorization*, Tech. Report CS-88-13, Department of Computer Science, Pennsylvania State University.
 - [1574] A. POTHEIN AND P. RAGHAVAN [1987]. *Distributed orthogonal factorization: Givens and Householder algorithms*, Tech. Report CS-87-24, Department of Computer Science, Pennsylvania State University.
 - [1575] A. POTHEIN, J. SOMESH, AND U. VEMULAPATI [1987]. *Orthogonal factorization on a distributed memory multiprocessor*, in Heath [858], pp. 587–596.
 - [1576] J. POTTER [1983]. *Image processing on the Massively Parallel Processor*, Computer, 16(1), pp. 62–67.
 - [1577] J. POTTER, ed. [1985]. *The Massively Parallel Processor*, MIT Press, Boston, MA.
 - [1578] C. POTTLE [1979]. *Solution of sparse linear equations arising from power system simulation on vector and parallel processors*, ISA Trans., 18(3), pp. 81–88.
 - [1579] F. PREPARATA AND D. SARWATE [1978]. *An improved parallel processor bound in fast matrix inversion*, Inf. Proc. Letts., 7, pp. 148–150.
 - [1580] F. PREPARATA AND J. VUILLEMIN [1980]. *Optimal integrated-circuit implementation of triangular matrix inversion*, Proc. 1980 Int. Conf. Par., pp. 211–216.
 - [1581] F. PREPARATA AND J. VUILLEMIN [1981]. *The cube-connected cycles: A versatile network for parallel computation*, Comm. ACM, 24, pp. 300–309.
 - [1582] H. PRICE AND K. COATS [1974]. *Direct methods in reservoir simulation*, J. Soc. Pet. Eng., 14, pp. 295–308.

- [1583] D. PRYOR AND P. BURNS [1987]. *A parallel Monte Carlo model for radiative heat transfer*, Tech. Report 87001, Institute for Scientific Computing, Fort Collins, CO.
- [1584] T. PULLIAM AND H. LOMAX [1979]. *Simulation of three-dimensional compressible viscous flow on the Illiac IV computer*, AIAA J., 18, pp. 159-167.
- [1585] L. PYLE AND S. WHEAT [1984]. *A Kosloff/basal method 3D migration program implemented on the CYBER 205 supercomputer*, in Gary [700], pp. 327-358.
- [1586] G. QING-SHI AND W. RONG-QUAN [1983]. *Vector computer for sparse matrix operations*, Proc. 1983 Int. Conf. Par. Proc., pp. 87-89.
- [1587] A. QUARTERONI AND G. SACCHI-LANDRIANI [1988]. *Domain decomposition preconditioners for the spectral collocation method*, Tech. Report 88-11, ICASE, NASA Langley Research Center, Hampton, VA, January.
- [1588] D. QUINLAN [1988]. *Multilevel load balancing for hypercubes*, in McCormick [1306].
- [1589] M. QUINN [1987], *Designing Efficient Algorithms for Parallel Computers*, McGraw-Hill, New York.
- [1590] C. RADEHAUS, M. WALDOWSKI, K. KARDELL, J. BERKEMEIER, M. WIESEMAN, AND H. PURVINS [1985]. *Special purpose computer for non-linear differential equations*, Comput. Phys. Comm., 36, pp. 345-350.
- [1591] S. RAJAN [1972]. *A parallel algorithm for high-speed subsonic compressible flow over a circular cylinder*, J. Comp. Phys., 12, pp. 534-552.
- [1592] I. RAJU AND J. CREWS [1982]. *Three-dimensional analysis of [0/90]_s and [90/0]_s laminates with a central circular hole*, Composite Tech. Rev., 4(4), pp. 116-124.
- [1593] I. RAMAKRISHNAN AND P. VARMAN [1984]. *Modular matrix multiplication on a linear array*, IEEE Trans. Comput., C-33, pp. 952-958.
- [1594] I. RAMAKRISHNAN AND P. VARMAN [1985]. *An optimal family of matrix multiplication algorithms on linear arrays*, Proc. 1985 Int. Conf. Par. Proc., pp. 376-383.
- [1595] C. RAMAMOORTHY, K. CHANDY, AND M. GONZALEZ [1972]. *Optimal scheduling strategies in a multiprocessor system*, IEEE Trans. Comput., C-21, pp. 137-146.
- [1596] C. RAMAMOORTHY AND H. LI [1977]. *Pipeline architecture*, ACM Computing Surveys, 9, pp. 61-102.
- [1597] M. RAMAMURTHY [1987]. *Performance improvement beyond vectorization on the Cyber 205*, Supercomputer, 22, pp. 41-51.
- [1598] A. RANADE [1985]. *Interconnection networks and parallel memory organizations for array processing*, Proc. 1985 Int. Conf. Par. Proc., pp. 41-47.
- [1599] J. RANSON, O. STORAASLI, AND R. FULTON [1984]. *Application of concurrent processing to structural dynamic response computations*, Research in Structures and Dynamics — 1984, NASA, pp. 31-44. NASA CP 2335.
- [1600] L. RASKIN [1978]. *Performance evaluation of multiple processor systems*, Tech. Report CMU-CS-78-141, Department of Computer Science, Carnegie-Mellon University.
- [1601] J. RATTNER [1985]. *Concurrent processing: A new direction in scientific computing*, Conf. Proc. 1985 Nat. Comp. Conf., vol. 54, AFIPS, pp. 157-166.
- [1602] W. RAY [1984], *Cyberplus: A multiparallel operating system*. Presented at the Los Alamos Workshop on Operating Systems and Environments for Parallel Processing, August 7-9, Los Alamos, NM.
- [1603] G. REA [1983]. *A software debugging aid for the Finite Element Machine*, Tech. Report, Department of Computer Science, University of Colorado.
- [1604] S. REDDAWAY [1979]. *The DAP approach*, in Jesshope and Hockney [972], pp. 309-329.
- [1605] S. REDDAWAY [1984]. *Distributed array processor, architecture and performance*, in Kowalik [1111], pp. 89-98.
- [1606] D. REDHED, A. CHEN, AND S. HOTOVY [1979]. *New approach to the 3D transonic flow analysis using the STAR-100 computer*, AIAA J., 17, pp. 98-99.
- [1607] D. REED [1983]. *Performance Based Design and Analysis of Multimicrocomputer Networks*,

- PhD dissertation, Purdue University.
- [1608] D. REED, L. ADAMS, AND M. PATRICK [1987]. *Stencils and problem partitionings: Their influence on the performance of multiple processor systems*, IEEE Trans. Comput., C-36, pp. 845–858.
 - [1609] D. REED AND M. PATRICK [1984]. *A model of asynchronous iterative algorithms for solving large sparse linear systems*, Proc. 1984 Int. Conf. Par. Proc., pp. 402–409.
 - [1610] D. REED AND M. PATRICK [1985]. *Iterative solution of large sparse linear systems on a static data flow architecture: Performance studies*, Proc. 1985 Int. Conf. Par. Proc., pp. 25–32.
 - [1611] D. REED AND M. PATRICK [1985]. *Iterative solution of large sparse linear systems on a static data flow architecture: Performance studies*, IEEE Trans. Comput., C-34, pp. 874–881.
 - [1612] D. REED AND M. PATRICK [1985]. *Parallel iterative solution of sparse linear systems: Models and architectures*, Parallel Computing, 2, pp. 45–67.
 - [1613] D. REHAK, W. KEIROUZ, C. HENDRICKSON, AND Z. CENDRES [1985]. *Evaluation of finite element system architectures*, Computers and Structures, 20, pp. 17–30.
 - [1614] L. REICHEL [1987]. *Parallel iterative methods for the solution of Fredholm integral equations of the second kind*, in Heath [858], pp. 520–529.
 - [1615] J. REID [1987]. *The exploitation of parallelism by using Fortran 8X features*, Supercomputer, 19, pp. 8–18.
 - [1616] G. REIJNS AND M. BARTON, eds. [1987]. *Highly Parallel Computers*, North-Holland, Amsterdam.
 - [1617] B. REILLY [1970]. *On implementing the Monte Carlo evaluation of the Boltzmann collision integral on ILLIAC IV*, Tech. Report I-140, Coordinated Science Laboratory, University of Illinois at Urbana-Champaign.
 - [1618] E. REITER AND G. RODRIGUE [1984]. *An incomplete Choleski factorization by a matrix partition algorithm*, in Birkhoff and Schoenstadt [173], pp. 161–173.
 - [1619] J. RICE [1985]. *Problems to test parallel and vector languages*, Tech. Report CSD-TR 516, Department of Computer Science, Purdue University, May.
 - [1620] J. RICE [1985]. *Using supercomputers today and tomorrow*, Proc. Third US Army Conf. on Applied Math and Computing, May.
 - [1621] J. RICE [1986]. *Multi-FLEX machines: Preliminary report*, Tech. Report CSD-TR-612, Department of Computer Science, Purdue University.
 - [1622] J. RICE [1986]. *Parallelism in solving PDE's*, Proceedings of the Fall Joint Computer Conference, Washington, DC, IEEE Computer Society Press, pp. 540–546.
 - [1623] J. RICE [1987]. *Parallel methods for PDE's*, Tech. Report.
 - [1624] J. RICE [1987]. *Supercomputing about physical objects*, Tech. Report TR-708, Department of Computer Science, Purdue University.
 - [1625] J. RICE AND D. MARINESCU [1987]. *Analysis and modeling of Schwartz splitting algorithms for elliptic PDE's*, in Vichnevetsky and Stepleman [1909].
 - [1626] C. RIEGER [1981]. *ZMOB: Hardware from a user's viewpoint*, Proc. IEEE Comput. Soc. Conf. Pattern Recognition and Image Processing, pp. 399–408.
 - [1627] J. RIGANATI AND P. SCHNECK [1984]. *Supercomputing*, Computer, 17(10), pp. 97–113.
 - [1628] A. RIZZI [1985]. *Vector coding the finite volume procedure for the Cyber 205*, Parallel Computing, 2, pp. 295–312.
 - [1629] A. RIZZI AND M. HODOUS [1985]. *Large scale flowfield simulation using the Cyber 205*, in Numrich [1462], pp. 159–177.
 - [1630] F. ROBERT [1970]. *Méthodes itératives série-parallèle*, C. R. Acad. Sci. Paris, 271, pp. 847–850.
 - [1631] F. ROBERT, M. CHARNAY, AND F. MUSY [1975]. *Iterations chaotiques série-parallèle pour des équations non-linéaires de point fixe*, Appl. Mate., 20, pp. 1–38.
 - [1632] Y. ROBERT [1985]. *Block LU decomposition of a band matrix on a systolic array*, Int. J. Comput. Math., 17, pp. 295–316.
 - [1633] Y. ROBERT AND M. TCHUENTE [1985]. *Systolic resolution of dense linear systems*, RAIRO-

- MMNA, 19, pp. 179–194 and 315–326.
- [1634] J. ROBINSON [1979]. *Some analysis techniques for asynchronous multiprocessor algorithms*, IEEE Trans. Softw. Eng., SE-5, pp. 24–31.
- [1635] J. ROBINSON, R. RILEY, AND R. HARTKA [1982]. *Evaluation of the SPAR thermal analyzer on the CYBER-203 computer*, Computational Aspects of Heat Transfer and Structures, H. Adelman, ed., NASA Langley Research Center, pp. 405–424. NASA-CP 2216.
- [1636] G. RODRIGUE, ed. [1982]. *Parallel Computations*, Academic Press, New York.
- [1637] G. RODRIGUE [1984]. *A parallel first-order method for parabolic partial differential equations*, in Kowalik [1111], pp. 329–342.
- [1638] G. RODRIGUE [1985]. *Inner/outer iterative methods and numerical Schwartz algorithms*, Parallel Computing, 2, pp. 205–218.
- [1639] G. RODRIGUE [1986]. *Parallel scientific computing: Philosophy and directions*, Tech. Report UCRL-93792, Lawrence Livermore National Laboratory.
- [1640] G. RODRIGUE [1986]. *Some ideas for decomposing the domain of elliptic partial differential equations in the Schwartz process*, Comm. Appl. Numer. Meth., 2, pp. 245–249.
- [1641] G. RODRIGUE [1986]. *Some new parallel methods for solving the heat equation*, Tech. Report UCRL-95278, Lawrence Livermore National Laboratory.
- [1642] G. RODRIGUE, E. GIROUX, AND M. PRATT [1980]. *Perspectives on large-scale scientific computation*, Computer, 13(12), pp. 65–80.
- [1643] G. RODRIGUE, C. HENDRICKSON, AND M. PRATT [1982]. *An implicit numerical solution of the two dimensional diffusion equation and vectorization experiments*, in Rodrigue [1636], pp. 101–128.
- [1644] G. RODRIGUE, N. MADSEN, AND J. KARUSH [1976]. *Odd-even reduction for banded linear equations*, Tech. Report UCRL-78652, Lawrence Livermore National Laboratory.
- [1645] G. RODRIGUE AND P. SAYLOR [1986]. *Domain decomposition and inner/outer iteration for elliptic partial differential equations II*, Tech. Report UCRL-92077-II, Lawrence Livermore National Laboratory.
- [1646] G. RODRIGUE AND J. SIMON [1984]. *Jacobi splittings and the method of overlapping domains for elliptic PDEs*, in Vichnevetsky and Stepleman [1980], pp. 383–386.
- [1647] G. RODRIGUE AND D. WOLITZER [1984]. *Incomplete block cyclic reduction*, Proc. 10th IMACS World Congress on Systems Simulation and Scientific Computation, vol. 1, IMACS, pp. 101–103.
- [1648] G. RODRIGUE AND D. WOLITZER [1984]. *Preconditioning by incomplete block cyclic reduction*, Math. Comp., 42, pp. 549–565.
- [1649] G. RODRIGUE AND D. WOLITZER [1986]. *A new class of explicit methods for parabolic partial differential equations*, Tech. Report UCRL-95669, Lawrence Livermore National Laboratory.
- [1650] R. ROGALLO [1977]. *An Illiac program for the numerical simulation of homogeneous incompressible turbulence*, NASA Tech. Report TM-73203, NASA Ames Research Center.
- [1651] C. ROMINE [1986]. *Factorization Methods for the Parallel Solution of Linear Systems*, PhD dissertation, The University of Virginia, Department of Applied Mathematics.
- [1652] C. ROMINE [1987]. *Parallel solution of triangular systems on a hypercube*, in Heath [858], pp. 552–559.
- [1653] C. ROMINE AND J. ORTEGA [1988]. *Parallel solution of triangular systems of equations*, Parallel Computing, 6, pp. 109–114.
- [1654] W. RÖNSCH [1984]. *Stability aspects in using parallel algorithms*, Parallel Computing, 1, pp. 75–98.
- [1655] W. RÖNSCH [1984]. *Timing and stability analysis of summation algorithms*, in Feilmeier et al. [623], pp. 225–231.
- [1656] A. ROOZE [1988]. *An asynchronous iteration method of solving nonlinear equations using parallel approximation of an inverse operator*, USSR Comput. Math. & Math. Phys., 26.4,

- pp. 188–191.
- [1657] J. ROSENFIELD [1969]. *A case study in programming for parallel processors*, Comm. ACM, 12, pp. 645–655.
 - [1658] L. RUDINSKI AND G. PIEPER [1979]. *Evaluating computer program performance on the CRAY-1*, Tech. Report 79-9, Argonne National Laboratory.
 - [1659] J. RUDOLPH [1972]. *A production implementation of an associative array processor - STARAN*, Proc. Fall Joint Comp. Conf., Montvale, NJ, AFIPS Press, pp. 229–241.
 - [1660] T. RUDY [1980]. *Analysis of a 2-D code on the CRAY-1*, Tech. Report UCID-18549, Lawrence Livermore National Laboratory.
 - [1661] M. RUSCHITZKU, M. CHONTENSEN, M. AMES, AND R. VICHNEVETSKY, eds. [1984]. *Parallel and Large Scale Computers: Performance, Architecture, Applications*, North-Holland, Amsterdam.
 - [1662] R. RUSSELL [1978]. *The CRAY-1 computer system*, Comm. ACM, 21, pp. 63–72.
 - [1663] Y. SAAD [1983]. *Least squares polynomials in the complex plane with applications to solving sparse non-symmetric matrix problems*, Tech. Report YALEU/DCS/RR-276, Department of Computer Science, Yale University.
 - [1664] Y. SAAD [1985]. *Practical use of polynomial preconditionings for the conjugate gradient method*, SIAM J. Sci. Statist. Comput., 6, pp. 865–882.
 - [1665] Y. SAAD [1986]. *Communication complexity of the Gaussian elimination algorithm on multiprocessors*, Lin. Alg. & Appl., 77, pp. 315–340.
 - [1666] Y. SAAD [1986]. *Gaussian elimination on hypercubes*, in Cosnard et al. [415].
 - [1667] Y. SAAD [1987]. *On the design of parallel numerical methods in message passing and shared memory environments*, Proceedings of International Seminar on Scientific Supercomputers, Paris, France, February 2–6.
 - [1668] Y. SAAD AND A. SAMEH [1981]. *Iterative methods for the solution of elliptic difference equations on multiprocessors*, CONPAR 81, pp. 395–411.
 - [1669] Y. SAAD AND A. SAMEH [1981]. *A parallel block Stiefel method for solving positive definite systems*, in Schultz [1742], pp. 405–411.
 - [1670] Y. SAAD, A. SAMEH, AND P. SAYLOR [1985]. *Solving elliptic difference equations on a linear array of processors*, SIAM J. Sci. Statist. Comput., 6, pp. 1049–1063.
 - [1671] Y. SAAD AND M. SCHULTZ [1985]. *Alternating Direction methods on multiprocessors: An extended abstract*, Tech. Report YALEU/DCS/RR-381, Department of Computer Science, Yale University, April.
 - [1672] Y. SAAD AND M. SCHULTZ [1985]. *Data communication in hypercubes*, Tech. Report YALEU/DCS/RR-428, Department of Computer Science, Yale University, October.
 - [1673] Y. SAAD AND M. SCHULTZ [1985]. *Topological properties of hypercubes*, Tech. Report YALEU/DCS/RR-389, Department of Computer Science, Yale University, June.
 - [1674] Y. SAAD AND M. SCHULTZ [1986]. *Data communications in parallel architectures*, Tech. Report YALEU/DCS/RR-461, Department of Computer Science, Yale University, March.
 - [1675] Y. SAAD AND M. SCHULTZ [1986]. *Parallel implementations of preconditioned conjugate gradient methods*, Mathematical and Computational Methods in Seismic Exploration and Reservoir Modeling, W. Fitzgibbon, ed.
 - [1676] Y. SAAD AND M. SCHULTZ [1987]. *Parallel direct methods for solving banded linear systems*, Lin. Alg. & Appl., 88, pp. 623–650.
 - [1677] P. SADAYAPPAN AND F. ERCAL [1987]. *Nearest-neighbor mapping of finite element graphs onto processor meshes*, IEEE Trans. Comput., C-36, pp. 1408–1424.
 - [1678] P. SADAYAPPAN, F. ERCAL, AND S. MARTIN [1987]. *Mapping finite element graphs onto processor meshes*, Proc. 1987 Int. Conf. Par. Proc., pp. 192–195.
 - [1679] F. SAIED, C.-T. HO, L. JOHNSSON, AND M. SCHULTZ [1987]. *Solving Schrödinger's equation on the Intel iPSC by the Alternating Direction method*, in Heath [858], pp. 680–691.
 - [1680] M. SALAMA, S. UTKU, AND R. MELOSH [1983]. *Parallel solution of finite element equations*,

- Proceedings of the 8th Conference on Electronic Computation, ASCE, pp. 526–539.
- [1681] J. SALTZ [1987]. *Analysis of parameterized methods for problem partitioning*, Tech. Report YALEU/DCS/RR-537, Department of Computer Science, Yale University, May.
 - [1682] J. SALTZ [1987]. *Automated problem scheduling and reduction of synchronization delay effects*, Tech. Report 87-22, ICASE, NASA Langley Research Center, Hampton, VA.
 - [1683] J. SALTZ AND M. CHEN [1987]. *Automated problem mapping: The Crystal run-time system*, in Heath [858], pp. 130–140.
 - [1684] J. SALTZ AND V. NAIK [1988]. *Towards developing robust algorithms for solving partial differential equations on MIMD machines*, Parallel Computing, 6, pp. 19–44.
 - [1685] J. SALTZ, V. NAIK, AND D. NICOL [1987]. *Reduction of the effects of the communication delays in scientific algorithms on message passing MIMD architectures*, SIAM J. Sci. Statist. Comput., 8, pp. s118–s138.
 - [1686] J. SALTZ AND D. NICOL [1986]. *Statistical methodologies for the control of dynamic remapping*, ICASE Report 86-46, NASA Langley Research Center, Hampton, VA, July.
 - [1687] A. SAMEH [1971]. *Illiac IV applications*, Proc. 9th Annual Allerton Conf. Circuit System Theory, pp. 1030–1038.
 - [1688] A. SAMEH [1971]. *On Jacobi and Jacobi-like algorithms for a parallel computer*, Math. Comp., 25, pp. 579–590.
 - [1689] A. SAMEH [1977]. *Numerical parallel algorithms — A survey*, in Kuck et al. [1128], pp. 207–228.
 - [1690] A. SAMEH [1981]. *Parallel algorithms in numerical linear algebra*. Presented at the CREST Conference.
 - [1691] A. SAMEH [1983]. *An overview of parallel algorithms in numerical linear algebra*, E.D.F. Bulletin de la Direction des Etudes et des Recherches, C(1), pp. 129–134.
 - [1692] A. SAMEH [1984]. *A fast Poisson solver for multiprocessors*, in Birkhoff and Schoenstadt [173], pp. 175–186.
 - [1693] A. SAMEH [1984]. *On two numerical algorithms for multiprocessors*, in Kowalik [1111], pp. 311–328.
 - [1694] A. SAMEH [1985]. *On some parallel algorithms on a ring of processors*, Comm. Phys. Comm., 37, pp. 159–166.
 - [1695] A. SAMEH [1985]. *Solving the linear least squares problem on a linear array of processors*, in Snyder et al. [1798], pp. 191–200.
 - [1696] A. SAMEH AND R. BRENT [1977]. *Solving triangular systems on a parallel computer*, SIAM J. Numer. Anal., 14, pp. 1101–1113.
 - [1697] A. SAMEH, S. CHEN, AND D. KUCK [1976]. *Parallel Poisson and biharmonic solvers*, Computing, 17, pp. 219–230.
 - [1698] A. SAMEH AND D. KUCK [1977]. *Parallel direct linear system solvers — A survey*, in Feilmeier [621], pp. 25–30.
 - [1699] A. SAMEH AND D. KUCK [1977]. *A parallel QR algorithm for symmetric tridiagonal matrices*, IEEE Trans. Comput., C-26, pp. 147–153.
 - [1700] A. SAMEH AND D. KUCK [1978]. *On stable parallel linear system solvers*, J. ACM, 25, pp. 81–91.
 - [1701] A. SAMEH AND C. TAFT [1982]. *Preconditioning strategies for the conjugate gradient algorithm on multiprocessors*. Presented at the 1982 Sparse Matrix Symposium.
 - [1702] J. SANGUINETTI [1986]. *Performance of a message based multiprocessor*, Computer, 19(9), pp. 47–55.
 - [1703] N. SARIGUL, M. JIN, R. KOLAR, AND H. KAMEL [1985]. *Design of array processor software for nonlinear structural analysis*, Computers and Structures, 20, pp. 963–974.
 - [1704] V. SAUNDERS AND M. GUEST [1982]. *Applications of the Cray-1 for quantum chemistry calculations*, Comput. Phys. Comm., 26, pp. 389–395.
 - [1705] J. SAVAGE [1984]. *Space-time tradeoffs for banded matrix problems*, J. ACM, 31, pp. 422–437.

- [1706] A. SAWCHUK AND T. STRAND [1984]. *Digital optical computing*, Proc. IEEE, 72, pp. 758–779.
- [1707] P. SAYLOR [1987]. *Leapfrog variants of iterative methods for linear algebraic equations*, Tech. Report R-87-1373, Department of Computer Science, University of Illinois at Urbana-Champaign.
- [1708] M. SCHAEFER [1987]. *A polynomial based iterative method for linear parabolic equations*, Tech. Report 661, Center for Supercomputing Research and Development, University of Illinois at Urbana-Champaign, May.
- [1709] U. SCHENDEL [1984], *Introduction to Numerical Methods for Parallel Computers*, John Wiley and Sons, New York. (Translator, B. W. Conolly).
- [1710] U. SCHENDEL AND M. SCHYSKA [1984]. *Parallelre algorithmen in der nichtlinearen optimierung*, Preprint 161/84, Fachbereich Mathematik, Freie Universität Berlin.
- [1711] D. SCHIMMEL AND F. LUK [1985]. *A new systolic array for the singular value decomposition*, Tech. Report EE-CEG-85-7, Department of Electrical and Computer Engineering, Cornell University, December.
- [1712] R. SCHNABEL [1985]. *Parallel computing in optimization*, Computational Mathematical Programming, K. Schittkowski, ed., Springer-Verlag, Berlin, pp. 357–382.
- [1713] R. SCHNABEL [1987]. *Concurrent function evaluations in local and global optimization*, Comput. Meth. Appl. Mech. Engrg., 64, pp. 537–552.
- [1714] E. SCHNEPF AND W. SCHÖNAUER [1983]. *Parallelization of PDE software for vector computers*, in Feilmeier et al. [623].
- [1715] E. SCHNEPF, W. SCHÖNAUER, AND H. MÜLLER [1985]. *Applications of the PDE solver FIDISOL on different vector computers*, Supercomputer, 10, pp. 21–28.
- [1716] E. SCHNEPF, W. SCHÖNAUER, AND H. MÜLLER [1985]. *Performance of the PDE black box solver FIDISOL on a CYBER 205*, Supercomputer Applications, H. Emmen, ed., North-Holland, Amsterdam, pp. 51–59.
- [1717] W. SCHÖNAUER [1983]. *The efficient solution of large linear systems resulting from the FDM for 3-D PDE's on vector computers*, Proc. First Intern. Coll. on Vector and Parallel Computing in Scientific Applications, A. Bassanut, ed., pp. 135–142. E.D.F. Bulletin de la Direction des Etudes et des Recherches, Ser. C., no. 1.
- [1718] W. SCHÖNAUER [1983]. *Numerical experiments with instationary Jacobi-OR methods for the iterative solution of linear equations*, ZAMM, 63, pp. T380–T382.
- [1719] W. SCHÖNAUER, ed. [1987]. *Scientific Computing on Vector Computers*, North-Holland.
- [1720] W. SCHÖNAUER AND W. GENTZSCH, eds. [1986]. *The Efficient Use of Vector Computers with Emphasis on Computational Fluid Dynamics*, vol. 12 of Notes on Numerical Fluid Mechanics, John Wiley and Sons, New York, NY.
- [1721] W. SCHÖNAUER, H. MÜLLER, AND E. SCHNEPF [1986]. *Pseudo-residual type methods for the iterative solution of large linear systems on vector computers*, Parallel Computing 85, M. Feilmeier, J. Joubert, and U. Schendel, eds., North-Holland, Amsterdam, pp. 193–198.
- [1722] W. SCHÖNAUER AND K. RAITH [1982]. *A polyalgorithm with diagonal storing for the solution of very large indefinite linear banded systems on a vector computer*, Proc. 10th IMACS World Congress on Systems Simulation and Scientific Computation, vol. 1, IMACS, pp. 326–328.
- [1723] W. SCHÖNAUER AND E. SCHNEPF [1986]. *Introduction to the workshop: Some bottlenecks and deficiencies of existing vector computers and their consequences for the development of general PDE software*, The Efficient Use of Vector Computers with Emphasis to Computational Fluid Dynamics, W. Schönauer and W. Gentzsch, eds., Vieweg, Braunschweig, pp. 1–34.
- [1724] W. SCHÖNAUER AND E. SCHNEPF [1987]. *Software considerations for the “black box” solver FIDISOL for partial differential equations*, ACM Trans. Math. Softw., 13, pp. 333–349.
- [1725] W. SCHÖNAUER AND E. SCHNEPF [1988]. *FIDISOL: A black box solver for partial differential equations*, Parallel Computing, 6, pp. 185–194.
- [1726] W. SCHÖNAUER, E. SCHNEPF, AND H. MÜLLER [1984]. *PDE software for vector computers*,

- in Vichnevetsky and Stepleman [1908], pp. 258–267.
- [1727] W. SCHÖNAUER, E. SCHNEPF, AND H. MÜLLER [1985]. *Designing PDE software for vector computers as a data flow algorithm*, Comp. Phys. Comm., 37, pp. 233–237.
- [1728] W. SCHÖNAUER, E. SCHNEPF, AND K. RAITH [1983]. *The redesign and vectorization of the SLDGL-program package for the self-adaptive solution of nonlinear systems of elliptic and parabolic PDE's*, Conference of the IFIP Working Group 2.5 on Numerical Software, Sweden.
- [1729] W. SCHÖNAUER, E. SCHNEPF, AND K. RAITH [1984]. *Modularization of PDE software for vector computers*, ZAMM, 64, pp. T309–T312.
- [1730] W. SCHÖNAUER AND H. WIETSCHORKE [1987]. *The questions of accuracy, geometrical flexibility and vectorability for the FDM*. Submitted to 1987 Meeting of ASME.
- [1731] R. SCHREIBER [1982]. *Systolic arrays for eigenvalue computation*, Proc. SPIE Symp. East 1982, 341, Real Time Signal Processing V.
- [1732] R. SCHREIBER [1983]. *On the systolic arrays of Brent, Luk and Van Loan for the symmetric eigenvalue and singular value problems*, Tech. Report TRITA-NA-8311, Department of Numerical Analysis and Computer Science, Royal Institute of Technology.
- [1733] R. SCHREIBER [1983]. *A systolic architecture for singular value decomposition*, Proc. First Intern. College Vector and Parallel Computing in Scientific Appl., Paris, March.
- [1734] R. SCHREIBER [1984]. *Systolic arrays: High performance parallel machines for matrix computation*, in Birkhoff and Schoenstadt [173], pp. 187–194.
- [1735] R. SCHREIBER [1986]. *On systolic array methods for band matrix factorizations*, BIT, 26, pp. 303–316.
- [1736] R. SCHREIBER [1986]. *Solving eigenvalue and singular value problems on an undersized systolic array*, SIAM J. Sci. Statist. Comput., 7, pp. 441–451.
- [1737] R. SCHREIBER [1987]. *Cholesky factorization by systolic array*, Tech. Report 87-14, Department of Computer Science, Rensselaer Polytechnic Institute, May.
- [1738] R. SCHREIBER [1987]. *Systolic linear algebra machines: A survey*, Signal Processing, S. Haykin, ed., Prentice-Hall, Inc., Englewood Cliffs, NJ.
- [1739] R. SCHREIBER AND P. KUEKES [1982]. *Systolic linear algebra machines in digital signal processing*, Proc. USC Workshop on VLSI and Modern Signal Processing, Los Angeles, Englewood Cliffs, NJ, Prentice-Hall, Inc.
- [1740] R. SCHREIBER AND B. PARLETT [1988]. *Block reflectors: Theory and computation*, SIAM J. Numer. Anal., 25, pp. 189–205.
- [1741] R. SCHREIBER AND W. TANG [1982]. *Vectorizing the conjugate gradient method*, in Control Data Corporation [411].
- [1742] M. SCHULTZ, ed. [1981]. *Elliptic Problem Solvers*, Academic Press, New York, NY.
- [1743] M. SCHULTZ [1984]. *Solving elliptic problems on an array processor system*, in Birkhoff and Schoenstadt [173], pp. 77–92.
- [1744] M. SCHULTZ [1985]. *Multiple array processors for ocean acoustic problems*, Tech. Report YALEU/DCS/RR-363, Department of Computer Science, Yale University, February.
- [1745] K. SCHWAN, W. BO, N. BAUMAN, P. SADAYAPPAN, AND F. ERCAL [1987]. *Mapping parallel applications to a hypercube*, in Heath [858], pp. 141–154.
- [1746] H. SCHWANDT [1985]. *Newton-like interval methods for large nonlinear systems of equations on vector computers*, Comput. Phys. Comm., 37, pp. 223–232.
- [1747] H. SCHWANDT [1987]. *Interval arithmetic block cyclic reduction on vector computers*, J. Par. Dist. Comp., 4, pp. 459–487.
- [1748] H. SCHWANDT [1987]. *An interval arithmetic method for the solution of nonlinear systems of equations on a vector computer*, Parallel Computing, 4, pp. 323–338.
- [1749] J. SCHWARTZ [1980]. *Ultracomputers*, ACM Trans. Program. Lang. Syst., 2, pp. 484–521.
- [1750] J. SCHWARTZ [1983]. *A taxonomic table of parallel computers, based on 55 designs*, Ultracomputer Note 69, Courant Institute, New York University.

- [1751] U. SCHWIEGELSHOHN AND L. THIELE [1987]. *A systolic array for cyclic-by-rows Jacobi algorithms*, J. Par. Dist. Comp., 4, pp. 334–340.
- [1752] D. SCOTT [1986]. *Avoiding the square-root bottleneck in the Choleski factorization of a matrix on a parallel computer*, Lin. Alg. & Appl., 77, pp. 341–344.
- [1753] D. SCOTT, M. HEATH, AND R. WARD [1986]. *Parallel block Jacobi eigenvalue algorithms using systolic arrays*, Lin. Alg. & Appl., 77, pp. 345–355.
- [1754] M. SCOTT AND G. MONTRY [1988]. *Some experiments in multitasking on an ELXSI system 6400*, Appl. Math. & Comp., 26, pp. 135–150.
- [1755] N. SCOTT, P. MILLIGAN, AND H. RILEY [1987]. *The parallel computation of Racah coefficients using transputers*, Comput. Phys. Comm., 46, pp. 83–98.
- [1756] R. SCOTT [1981]. *On the choice of discretization for solving PDE's on a multi-processor*, in Schultz [1742], pp. 419–422.
- [1757] R. SCOTT, J. BOYLE, AND B. BAGHERI [1987]. *Distributed data structures for scientific computation*, in Heath [858], pp. 55–66.
- [1758] S. SCOTT, H. DEMUTH, AND J. HALEY [1988]. *Comparison of parallel SOR algorithms for solution of sparse matrix problems*, in Kartashev and Kartashev [1051], pp. 424–432.
- [1759] M. SEAGER [1986]. *Overhead considerations for parallelizing conjugate gradient*, Comm. Appl. Numer. Meth., 2, pp. 273–279.
- [1760] M. SEAGER [1986]. *Parallelizing conjugate gradient for the CRAY X-MP*, Parallel Computing, 3, pp. 35–48.
- [1761] S. SEDUKEIN [1985]. *The computing structures of algorithms and VLSI-based computer architecture*, Computational Processes and Systems, Izdatel'stvo Nauka, Moscow, pp. 129–139.
- [1762] C. SEITZ [1982]. *Ensemble architectures for VLSI — A survey and taxonomy*, Proc. MIT Conf. on Advanced Res. in VLSI, P. Penfield, ed., Artech House, pp. 130–135.
- [1763] C. SEITZ [1984]. *Concurrent VLSI architectures*, IEEE Trans. Comput., C-33, pp. 1247–.
- [1764] C. SEITZ [1984]. *Experiments with VLSI ensemble machines*, J. VLSI and Comp. Sys., 1(3).
- [1765] C. SEITZ [1985]. *The cosmic cube*, Comm. ACM, 28, pp. 22–33.
- [1766] C. SEITZ AND J. MATISOO [1984]. *Engineering limits on computer performance*, Physics Today, 37(5), pp. 38–45.
- [1767] M. SEJNOWSKI, E. UPCHURCH, R. KAPUR, D. CHARLU, AND G. LIPOVSKI [1980]. *An overview of the Texas Reconfigurable Array Computer*, AFIPS Conf. Proc., NCC, pp. 631–641.
- [1768] A. SHAH [1980]. *Group broadcast mode of interprocessor communications for the finite element machine*, Tech. Report CSDG-80-1, Department of Computer Science, University of Colorado.
- [1769] J. SHANEHCHI AND D. EVANS [1981]. *New variants of the Quadrant Interlocking Factorization (QIF) method*, CONPAR 81 Conf. Proc. Lecture Notes in Computer Science III, W. Händler, ed., Springer-Verlag, pp. 493–507.
- [1770] J. SHANEHCHI AND D. EVANS [1982]. *Further analysis of the QIF method*, Int. J. Comput. Math., 11, pp. 143–154.
- [1771] J. SHANG, P. BUNING, W. HANKEY, AND M. WIRTH [1980]. *Performance of a vectorized three-dimensional Navier-Stokes code on the CRAY-1 computer*, AIAA J., 18, pp. 1073–1079.
- [1772] D. SHARP, N. METROPOLIS, AND J. WORLTON, eds. [1986]. *Frontiers of Supercomputing*, University of California Press, Berkeley, CA.
- [1773] J. SHARP [1987]. *An Introduction to Distributed and Parallel Processing*, Blackwell Scientific Publications, London.
- [1774] D. SHASHA AND M. SNIR [1986]. *Efficient and correct execution of parallel programs that share memory*, Tech. Report 206, Ultracomputer Laboratory, New York University, March.
- [1775] D. SHAW [1984]. *SIMD and MSIMD variants of the NON-VON supercomputer*, Proc. COMPCON 84, IEEE Comp. Soc. Conf., pp. 360–363.

- [1776] G. SHEDLER [1967]. *Parallel numerical methods for the solution of equations*, Comm. ACM, 10, pp. 286–291.
- [1777] G. SHEDLER AND M. LEHMAN [1967]. *Evaluation of redundancy in a parallel algorithm*, IBM Systems J., 6, pp. 142–149.
- [1778] M. SHELL, D. BOULDIN, AND P. MANHARDT [1985]. *Design and implementation of a VLSI systolic array for solving nonlinear parallel differential equations*, Proc. 1985 Int. Conf. Par. Proc., pp. 96–98.
- [1779] S. SHEU, W. LIN, AND C. DAS [1987]. *An efficient parallel algorithm of conjugate gradient method*, in Kartashev and Kartashev [1051], pp. 488–496.
- [1780] T. SHIMADA, K. HIRAKI, AND K. NISHIDA [1984]. *An architecture of a data flow computer and its evaluation*, Proc. COMPCON 84, IEEE Comp. Soc. Conf., pp. 486–490.
- [1781] H. SIEGEL [1979]. *Interconnection networks for SIMD machines*, Computer, 12(6), pp. 57–65.
- [1782] H. SIEGEL [1985], *Interconnection Networks for Large-Scale Parallel Processing: Theory and Case Studies*, Lexington Books.
- [1783] H. SIEGEL AND R. McMILLEN [1981]. *The multistage cube: A versatile interconnection network*, Computer, 14, pp. 65–76.
- [1784] L. SIEGEL, H. SIEGEL, AND P. SWAIN [1982]. *Performance measurements for evaluating algorithms for SIMD machines*, IEEE Trans. Softw. Eng., SE-8, pp. 319–331.
- [1785] D. SIEWIOREK [1983]. *State-of-the-art in parallel computing*, in Noor [1443], pp. 33–48.
- [1786] D. SILVESTER [1988]. *Optimising finite element matrix calculations using the general technique of element vectorization*, Parallel Computing, 6, pp. 157–164.
- [1787] M. SIMMONS AND O. LUBECK [1986]. *Benchmark of the Convex C-1 mini supercomputer*, Tech. Report LA-UR-86-2890, Los Alamos National Laboratory, August.
- [1788] H. SIMON [1985]. *Incomplete LU preconditioners for conjugate gradient type iterative methods*, Proc. 8th SPE Symp. on Reservoir Simulation, Dallas, TX, February.
- [1789] R. SKEEL [1987]. *Waveform iteration and the shifted Picard splitting*, Tech. Report 700, Department of Computer Science, University of Illinois at Urbana-Champaign, November.
- [1790] D. SLOTNICK, W. BORCK, AND R. McREYNOLDS [1962]. *The SOLOMON computer*, Proc. AFIPS, FJCC, 22, pp. 97–107.
- [1791] L. SMARR [1985]. *An approach to complexity: Numerical computations*, Science, 228, pp. 403–408.
- [1792] B. SMITH [1978]. *A pipelined, shared resource MIMD computer*, Proc. 1978 Int. Conf. Par. Proc., pp. 6–8.
- [1793] R. SMITH AND J. PITTS [1979]. *The solution of the three-dimensional viscous compressible Navier-Stokes equations on a vector computer*, Advances in Computer Methods for Partial Differential Equations-III, IMACS, pp. 245–252.
- [1794] R. SMITH, J. PITTS, AND J. LAMBIOTTE [1978]. *A vectorization of the Jameson-Caughey NYU transonic swept-wing computer program FLO-22-VI for the STAR-100 computer*, NASA Tech. Rept. TM-78665, NASA Langley Research Center.
- [1795] L. SNYDER [1982]. *Introduction to the configurable highly parallel computer*, Computer, 15(1), pp. 47–56.
- [1796] L. SNYDER [1985]. *An inquiry into the benefits of multigauge parallel computation*, Proc. 1985 Int. Conf. Par. Proc., pp. 488–497.
- [1797] L. SNYDER [1986]. *Type architectures, shared memory and the corollary of modest potential*. Preprint.
- [1798] L. SNYDER, L. JAMIESON, D. GANNON, AND H. SIEGEL, eds. [1985]. *Algorithmically Specialized Parallel Computers*, Academic Press, Orlando, FL.
- [1799] J. SOLEM [1984]. *MECA: A supercomputer for Monte Carlo*, Tech. Report LA-10005, Los Alamos National Laboratory.
- [1800] P. SOLL, N. HABRA, AND G. RUSSELL [1977]. *Experience with a vectorized general circulation climate model on STAR-100*, in Kuck et al. [1128], pp. 311–312.

- [1801] M. SOLOMON AND R. FINKEL [1979]. *The Roscoe operating system*, Proc. 7th Symp. Op. Sys. Princ., pp. 108–114.
- [1802] D. SORENSEN [1984]. *Buffering for vector performance on a pipelined MIMD machine*, Parallel Computing, 1, pp. 143–164.
- [1803] D. SORENSEN [1985]. *Analysis of pairwise pivoting in Gaussian elimination*, IEEE Trans. Comput., C-34, pp. 274–278.
- [1804] J. SOUTH [1985]. *Recent advances in computational aerodynamics*, Paper 85-0366, AIAA. 23rd Aerospace Sciences Meeting, Reno, NV.
- [1805] J. SOUTH, J. KELLER, AND M. HAFEZ [1980]. *Computational transonic on a vector computer*, ARO Report 80-3, U. S. Army Numerical Analysis and Computers Conference, August.
- [1806] J. SOUTH, J. KELLER, AND M. HAFEZ [1980]. *Vector processor algorithms for transonic flow calculations*, AIAA J., 18, pp. 786–792.
- [1807] M. SRINIVAS [1983]. *Optimal parallel scheduling of Gaussian elimination DAG's*, IEEE Trans. Comput., C-32, pp. 1109–1117.
- [1808] P. STANAT AND J. NOLEN [1982]. *Performance comparisons for reservoir simulation problems on three supercomputers*, 6th SPE Symposium Reservoir Simulation. Also in Control Data Corp. [411].
- [1809] B. STEFFEN [1988]. *Implementation of a resonant cavity package on MIMD computers*, Parallel Computing, 7, pp. 55–64.
- [1810] B. STEFFEN [1988]. *Multigrid methods for calculation of electromagnets and their implementation on MIMD computers*, in McCormick [1306].
- [1811] K. STEVENS [1975]. *CFD — A Fortran-like language for the Illiac IV*, Sigplan Notices, pp. 72–80.
- [1812] K. STEVENS [1979]. *Numerical aerodynamics simulation facility project*, in Jesshope and Hockney [972], pp. 331–342.
- [1813] G. STEWART [1987]. *A parallel implementation of the QR-algorithm*, Parallel Computing, 5, pp. 187–196.
- [1814] H. STONE [1971]. *Parallel processing with the perfect shuffle*, IEEE Trans. Comput., C-20, pp. 153–161.
- [1815] H. STONE [1973]. *An efficient parallel algorithm for the solution of a tridiagonal linear system of equations*, J. ACM, 20, pp. 27–38.
- [1816] H. STONE [1975]. *Parallel tridiagonal equation solvers*, ACM Trans. Math. Softw., 1, pp. 289–307.
- [1817] H. STONE [1977]. *Multiprocessor scheduling with the aid of network flow algorithms*, IEEE Trans. Softw. Eng., SE-3, pp. 85–94.
- [1818] H. STONE [1980]. *Parallel computation*, Introduction to Computer Architecture, H. Stone, ed., Science Research Associates, Inc., second ed., pp. 363–425.
- [1819] H. STONE [1987]. *High Performance Computer Architecture*, Addison-Wesley, New York.
- [1820] O. STORAASLI, S. PEEBLES, T. CROCKETT, J. KNOTT, AND L. ADAMS [1982]. *The Finite Element Machine: An experiment in parallel processing*, Proc. of Conf. on Res. in Structures and Solid Mech., pp. 201–217. NASA Conf. Pub. 2245, NASA Langley Research Center, Hampton, VA.
- [1821] O. STORAASLI, J. RANSON, AND R. FULTON [1984]. *Structural dynamic analysis on a parallel computer: The Finite Element Machine*, 25th AIAA Structures, Structural Dynamics and Materials Conf., Palm Springs, CA. 84-0966-CP.
- [1822] P. STOTTS [1982]. *A comparative survey of concurrent programming languages*, SIGPLAN Notices, 17(9), pp. 76–87.
- [1823] T. STRAETER [1973]. *A parallel variable metric optimization algorithm*, NASA Technical Note D-7329, NASA Langley Research Center, Hampton, VA.
- [1824] T. STRAETER AND A. MARKOS [1975]. *A parallel Jacobson-Oksman optimization algorithm*,

- NASA Technical Note D-8020, NASA Langley Research Center, Hampton, VA.
- [1825] J. STRIKWERDA [1982]. *A time split difference scheme for the compressible Navier-Stokes equations with applications to flows in slotted nozzles*, in Rodrigue [1636], pp. 251–267.
 - [1826] J. STRINGER [1982]. *Efficiency of D4 Gaussian elimination on a vector computer*, in Cray Research, Inc. [423], pp. 115–121.
 - [1827] S. SU AND A. THAKORE [1987]. *Matrix operations on a multicomputer system with switchable main memory modules and dynamic control*, IEEE Trans. Comput., C-36, pp. 1467–1484.
 - [1828] R. SUGARMAN [1980]. *Superpower computers*, IEEE Spectrum, pp. 28–34.
 - [1829] H. SULLIVAN AND T. BASHKOW [1977]. *A large scale homogeneous fully distributed parallel machine*, Proc. 4th Annual Symp. Comp. Arch., pp. 105–117.
 - [1830] H. SULLIVAN AND T. BASHKOW [1977]. *A large scale, homogeneous, fully distributed parallel machine*, Comput. Arch. News, 5, pp. 105–117.
 - [1831] C. SUTTI [1983]. *Nongradient minimization methods for parallel processing computers*, J. Optim. Theory Appl., 39, pp. 465–488.
 - [1832] R. SWAN, S. FULLER, AND D. SIEWIOREK [1977]. *Cm* — A modular multi-microprocessor*, Proc. AFIPS Nat. Computer Conf., Montvale, NJ, AFIPS Press, pp. 637–644.
 - [1833] P. SWARZTRAUBER [1979]. *A parallel algorithm for solving general tridiagonal equations*, Math. Comp., 33, pp. 185–199.
 - [1834] P. SWARZTRAUBER [1979]. *The solution of tridiagonal systems on the CRAY-1*, in Jesshope and Hockney [972], pp. 343–358.
 - [1835] P. SWARZTRAUBER [1982]. *Vectorizing the FFTs*, in Rodrigue [1636], pp. 51–83.
 - [1836] P. SWARZTRAUBER [1983]. *Efficient algorithms for pipeline and parallel computers*, in Noor [1443], pp. 89–104.
 - [1837] P. SWARZTRAUBER [1984]. *FFT algorithms for vector computers*, Parallel Computing, 1, pp. 45–63.
 - [1838] P. SWARZTRAUBER [1987]. *Multiprocessor FFTs*, Parallel Computing, 5, pp. 197–210.
 - [1839] R. SWEET [1987]. *A parallel and vector variant of the cyclic reduction algorithm*, Supercomputer, 22, pp. 18–25.
 - [1840] R. SWEET [1988]. *A parallel and vector variant of the cyclic reduction algorithm*, SIAM J. Sci. Statist. Comput., 9, pp. 761–765.
 - [1841] J. SWISSELM AND G. JOHNSON [1985]. *Numerical simulation of three dimensional flowfields using the Cyber 205*, in Numrich [1462], pp. 179–195.
 - [1842] J. SWISSELM, G. JOHNSON, AND S. KUMAR [1986]. *Parallel computation of Euler and Navier-Stokes flows*, Appl. Math. & Comp., 19(1-4), pp. 321–332. (Special Issue, Proceedings of the Second Copper Mountain Conference on Multigrid Methods, Copper Mountain, CO, S. McCormick, ed.).
 - [1843] C. TAFT [1982]. *Preconditioning strategies for solving elliptic equations on a multiprocessor*, Tech. Report, Department of Computer Science, University of Illinois at Urbana-Champaign.
 - [1844] H.-M. TAI AND R. SAEKS [1984]. *Parallel system simulation*, IEEE Trans. Syst. Man. Cybern., SMC-14, pp. 177–183.
 - [1845] Y. TAKAHASHI [1982]. *Partitioning and allocation in parallel computation of partial differential equations*, Proc. 10th IMACS World Congress on Systems Simulation and Scientific Computation, vol. 1, pp. 311–313.
 - [1846] W. TANG [1986]. *Schwartz Splitting, A Model for Parallel Computations*, PhD dissertation, Stanford University, Department of Computer Science.
 - [1847] O. TELEMAN AND B. JONSON [1986]. *Vectorizing a general-purpose molecular dynamics simulation program*, J. Comp. Chem., 7, pp. 58–66.
 - [1848] C. TEMPERTON [1979]. *Direct methods for the solution of the discrete Poisson equation: Some comparisons*, J. Comp. Phys., 31, pp. 1–20.
 - [1849] C. TEMPERTON [1979]. *Fast Fourier transforms and Poisson solvers on CRAY-1*, in Jesshope

- and Hockney [972], pp. 359–379.
- [1850] C. TEMPERTON [1979]. *Fast Fourier transforms on CRAY-1*, Tech. Report 21, European Center for Median Range Weather Forecasts.
 - [1851] C. TEMPERTON [1980]. *On the FACR (l) algorithm for the discrete Poisson equation*, J. Comp. Phys., 34, pp. 314–329.
 - [1852] C. TEMPERTON [1984]. *Fast Fourier transforms on the CYBER 205*, in Kowalik [1111], pp. 403–416.
 - [1853] C. TEMPERTON [1988]. *Implementation of a prime factor FFT algorithm on CRAY-1*, Parallel Computing, 6, pp. 99–108.
 - [1854] G. TENNILLE [1982]. *Development of a one-dimensional stratospheric analysis program for the CYBER 203*, in Control Data Corporation [411].
 - [1855] A. THAKORE AND S. SU [1987]. *Matrix inversion and LU decomposition on a multicomputer system with dynamic control*, in Kartashev and Kartashev [1051], pp. 291–301.
 - [1856] C. THOLE [1988]. *Parallel multigrid algorithms on a message-based MIMD system*, in McCormick [1306].
 - [1857] C. THOLE [1988]. *The SUPRENUM approach: MIMD architecture for multigrid algorithms*, in McCormick [1306].
 - [1858] W. THOMAS AND E. LEWIS [1983]. *Two vectorized algorithms for the solution of three dimensional neutron diffusion equations*, Nuc. Sci. Eng., 84, pp. 67–71.
 - [1859] W. THOMPKINS AND R. HAIMES [1983]. *A minicomputer/array processor/memory system for large-scale fluid dynamic calculations*, in Noor [1443], pp. 117–126.
 - [1860] K. THURBER [1976], *Large Scale Computer Architectures: Parallel and Associative Processors*, Hayden Book Co.
 - [1861] K. THURBER AND L. WALD [1975]. *Associative and parallel processors*, ACM Computing Surveys, 7, pp. 215–245.
 - [1862] G. THURSTON [1987]. *A parallel solution for the symmetric eigenproblem*, Tech. Report NASA-TM-89082, NASA Langley Research Center, Hampton, VA.
 - [1863] J. TIBERGHIEN, ed. [1984]. *New Computer Architectures*, Academic Press, Orlando, FL.
 - [1864] D. TOLLE AND W. SIDDALL [1981]. *On the complexity of vector computations in binary tree machines*, Inform. Process. Lett., 13, pp. 120–124.
 - [1865] S. TOMBOULIAN, T. CROCKETT, AND D. MIDDLETON [1988]. *A visual programming environment for the Navier-Stokes computer*, ICASE Report 88-6, NASA Langley Research Center, Hampton, VA.
 - [1866] J. TRAUB, ed. [1974]. *Complexity of Sequential and Parallel Numerical Algorithms*, Academic Press.
 - [1867] J. TRAUB [1974]. *Iterative solution of tridiagonal systems on parallel or vector computers*, in Traub [1866], pp. 49–82.
 - [1868] R. TRAVASSOS AND H. KAUFMAN [1980]. *Parallel algorithms for solving nonlinear two-point boundary-value problems which arise in optimal control*, J. Optim. Theory Appl., 30, pp. 53–71.
 - [1869] P. TRELEAVEN [1979]. *Exploiting program concurrency in computing systems*, Computer, 12(1), pp. 42–50.
 - [1870] P. TRELEAVEN [1984]. *Decentralised computer architecture*, in Tiberghien [1863].
 - [1871] S. TRIPATHI, S. KAISLER, S. CHANDRAN, AND A. AGRAWALA [1986]. *Report of the workshop on design and performance issues in parallel architectures*, Tech. Report CS-TR-1705, Department of Computer Science, University of Maryland, September.
 - [1872] J. TUAZON, J. PETERSON, M. PNIEL, AND D. LIEBERMAN [1985]. *Caltech/JPL Mark II hypercube concurrent processor*, Proc. 1985 Int. Conf. Par. Proc., pp. 666–673.
 - [1873] L. TUCKER AND G. ROBINSON [1988]. *Architecture and applications of the Connection Machine*, Computer, 21(8), pp. 26–38.
 - [1874] L. UHR [1984], *Algorithm Structured Computer Arrays and Networks*, Academic Press, Or-

- lando, FL.
- [1875] J. ULLMAN [1983]. *Some thoughts about supercomputer organization*, Tech. Report STAN-CS-83-987, Department of Computer Science, Stanford University, October.
 - [1876] S. UNGER [1958]. *A computer oriented towards spatial problems*, Proc. IRE, 46, pp. 1744–1750.
 - [1877] S. UTKU, Y. CHANG, M. SALAMA, AND D. RAPP [1986]. *Simultaneous iterations algorithm for generalized eigenvalue problems on parallel processors*, Proc. 1986 Int. Conf. Par. Proc., pp. 59–66.
 - [1878] S. UTKU, M. SALAMA, AND R. MELOSH [1986]. *Concurrent Cholesky factorization of positive definite banded Hermitian matrices*, Int. J. Num. Meth. Eng., 23, pp. 2137–2152.
 - [1879] M. VAJTERSIC [1979]. *A fast parallel method for solving the biharmonic boundary value problem on a rectangle*, Proc. First European Conference on Parallel Distributed Processing, Toulouse, pp. 136–141.
 - [1880] M. VAJTERSIC [1981]. *Solving two modified discrete Poisson equations in $7 \log n$ steps on n^2 processors*, CONPAR 81, pp. 473–432.
 - [1881] M. VAJTERSIC [1982]. *Parallel Poisson and biharmonic solvers implemented on the EGPA multiprocessor*, Proc. 1982 Int. Conf. Par. Proc., pp. 72–81.
 - [1882] M. VAJTERSIC [1984]. *Parallel marching Poisson solvers*, Parallel Computing, 1, pp. 325–330.
 - [1883] R. VAN DE GEIJN [1987]. *Implementing the QR-Algorithm on an Array of Processors*, PhD dissertation, University of Maryland, Department of Computer Science. Also Tech. Report TR-1897, Department of Computer Science, University of Maryland, August.
 - [1884] E. VAN DE VELDE AND H. KELLER [1987]. *The design of a parallel multigrid algorithm*, in Kartashev and Kartashev [1051], pp. 76–83.
 - [1885] H. VAN DER VORST [1982]. *A vectorizable variant of some ICCG methods*, SIAM J. Sci. Statist. Comput., 3, pp. 350–356.
 - [1886] H. VAN DER VORST [1983]. *On the vectorization of some simple ICCG methods*, First Int. Conf. Vector and Parallel Computation in Scientific Applications, Paris.
 - [1887] H. VAN DER VORST [1985]. *Comparative performance tests of Fortran codes on the CRAY-1 and CYBER 205*, Parallel Computers and Computations, J. van Leeuwen and J. Lenstra, eds., CWI, Amsterdam. CWI Syllabus 9.
 - [1888] H. VAN DER VORST [1986]. *Analysis of a parallel solution method for tridiagonal systems*, Tech. Report 86-06, Department of Mathematics and Information, Delft University of Technology.
 - [1889] H. VAN DER VORST [1986]. *(M)ICCG for 2D problems on vector computers*, Tech. Report 86-55, Department of Mathematics and Information, Delft University of Technology.
 - [1890] H. VAN DER VORST [1986]. *The performance of Fortran implementations for preconditioned conjugate gradients on vector computers*, Parallel Computing, 3, pp. 49–58.
 - [1891] H. VAN DER VORST [1987]. *Analysis of a parallel solution method for tridiagonal linear systems*, Parallel Computing, 5, pp. 303–311.
 - [1892] H. VAN DER VORST [1987]. *ICCG and related methods for 3D problems on vectorcomputers*, Tech. Report A-18, Data Processing Center, Kyoto University, Japan.
 - [1893] H. VAN DER VORST [1987]. *Large tridiagonal and block tridiagonal linear systems on vector and parallel computers*, Parallel Computing, 5, pp. 45–54.
 - [1894] H. VAN DER VORST AND J. VAN KATS [1983]. *Comparative performance tests on the CRAY-1 and Cyber 205*. Preprint, May.
 - [1895] P. VAN LARHOVEN [1985]. *Parallel variable metric algorithms for unconstrained optimization*, Math. Programming, 33, pp. 68–81.
 - [1896] R. VAN LUCHENE, R. LEE, AND V. MEYERS [1986]. *Large scale finite element analysis on a vector processor*, Computers and Structures, 24, pp. 625–635.
 - [1897] J. VAN ROSENDALE [1983]. *Algorithms and data structures for adaptive multigrid elliptic solvers*, Appl. Math. & Comp., 13(3-4), pp. 453–470. (Special Issue, Proceedings of the First Copper Mountain Conference on Multigrid Methods, Copper Mountain, CO, S. Mc-

- Cormick and U. Trottenberg, eds.).
- [1898] J. VAN ROSENDALE [1983]. *Minimizing inner product data dependencies in conjugate gradient iteration*, Proc. 1983 Int. Conf. Par. Proc., pp. 44–46.
 - [1899] J. VAN ROSENDALE AND P. MEHROTRA [1985]. *The BLAZE language: A parallel language for scientific programming*, ICASE Report 85-29, NASA Langley Research Center, Hampton, VA.
 - [1900] F. VAN SCY [1977]. *Some parallel cellular matrix algorithms*, Proc. ACM Comp. Sci. Conf.
 - [1901] E. VAN WEZENBECK AND W. RAVENEK [1987]. *Vectorization of the natural logarithm on the Cyber 205*, Supercomputer, 19, pp. 37–42.
 - [1902] S. VANKA [1987]. *Vectorized multigrid fluid flow calculations on a CRAY X-MP/48*, I. J. Num. Meth. Fluids, 7, pp. 635–648.
 - [1903] C. VAUGHAN AND J. ORTEGA [1987]. *SSOR preconditioned conjugate gradient on a hypercube*, in Heath [858], pp. 692–705.
 - [1904] S. VAVASIS [1986]. *Parallel Gaussian elimination*, Tech. Report CS 367A, Department of Computer Science, Stanford University, Stanford, CA.
 - [1905] A. VEEN [1986]. *Dataflow machine architecture*, ACM Computing Surveys, 18, pp. 365–396.
 - [1906] V. VENKAYYA, D. CALAHAN, P. SUMMERS, AND V. TISCHLER [1983]. *Structural optimization on vector processors*, in Noor [1443], pp. 155–190.
 - [1907] C. VERBER [1985]. *Integrated optical architecture for matrix multiplication*, Optical Engineering, 24, pp. 19–25.
 - [1908] R. VICHNEVETSKY AND R. STEPLEMAN, eds. [1984]. *Advances in Computer Methods for Partial Differential Equations - V*, Proceedings of the Fifth IMACS International Symposium, New Brunswick, Canada.
 - [1909] R. VICHNEVETSKY AND R. STEPLEMAN, eds. [1987]. *Advances in Computational Methods for Partial Differential Equations - VI*, Proceedings of the Sixth IMACS International Symposium, New Brunswick, Canada.
 - [1910] V. VOEVODIN [1985]. *Mathematical problems in the development of supercomputers*, Computational Processes and Systems, Izdatel'stvo Nauka, Moscow, pp. 3–12.
 - [1911] V. VOEVODIN [1986], *Mathematical Models and Methods for Parallel Processes*, Izdatel'stvo Nauka, Moscow.
 - [1912] R. VOIGT [1977]. *The influence of vector computer architecture on numerical algorithms*, in Kuck et al. [1128], pp. 229–244.
 - [1913] R. VOIGT, D. GOTTLIEB, AND M. HUSSAINI, eds. [1984]. *Spectral Methods for Partial Differential Equations*, Society for Industrial and Applied Mathematics, Philadelphia, PA.
 - [1914] R. VOITUS [1981]. *A multiple process software package for the Finite Element Machine*, Tech. Report, Department of Computer Science, University of Colorado.
 - [1915] J. VOLKERT AND W. HENNING [1986]. *Multigrid algorithms implemented on EGPA multiprocessor*, Proc. 1986 Int. Conf. Par. Proc., pp. 799–805.
 - [1916] J. von NEUMANN [1966]. *A system of 29 states with a general transition rule*, Theory of Self-Reproducing Automata, A. Burks, ed., University of Illinois Press, pp. 305–317.
 - [1917] D. VRSALOVIC, D. SIEWIOREK, A. SEGALL, AND E. GEHRINGER [1984]. *Performance prediction for multiprocessor systems*, Proc. 1984 Int. Conf. Par. Proc., pp. 139–146.
 - [1918] D. VU AND C. YANG [1988]. *Comparing tridiagonal solvers on the CRAY X-MP /416 system*, CRAY Channels, 9(4), pp. 22–25.
 - [1919] E. WACHSPRESS [1984]. *Navier-Stokes pressure equation iteration*, in Birkhoff and Schoenstadt [173], pp. 315–322.
 - [1920] R. WAGNER [1983]. *The Boolean vector machine*, 1983 IEEE Conference Proc. 10th Annual Int. Symp. Comp. Arch., pp. 59–66.
 - [1921] R. WAGNER [1984]. *Parallel solution of arbitrarily sparse linear systems*, Tech. Report CS-1984-13, Department of Computer Science, Duke University.
 - [1922] R. WAGNER AND M. PATRICK [1988]. *A sparse matrix algorithm on the Boolean vector ma-*

- chine*, Parallel Computing, 6, pp. 359–372.
- [1923] D. WALKER, G. FOX, A. HO, AND G. MONTRY [1987]. *A comparison of the performance of the Caltech Mark II hypercube and the Elzsi 6400*, in Heath [858].
 - [1924] Y. WALLACH [1982]. *Alternating sequential-parallel calculation of eigenvalues for symmetric matrices*, Computing, 28, pp. 1–16.
 - [1925] Y. WALLACH [1984]. *On two more eigenvalue methods for an alternating sequential parallel system*, Computing, 32, pp. 33–42.
 - [1926] Y. WALLACH AND V. CONRAD [1976]. *Parallel solution of load flow problems*, Arch. Elektrotechnik, 57, pp. 345–354.
 - [1927] Y. WALLACH AND V. CONRAD [1980]. *On block parallel methods for solving linear equations*, IEEE Trans. Comput., C-29, pp. 354–359.
 - [1928] J. WALLIS AND J. GRISHAM [1982]. *Petroleum reservoir simulation on the CRAY-1 and on the FPS-164*, Proc. 10th IMACS World Congress on Systems Simulation and Scientific Computation, vol. 1, pp. 308–310.
 - [1929] J. WALLIS AND J. GRISHAM [1982]. *Reservoir simulation on the CRAY-1*, in Cray Research, Inc. [423], pp. 122–139.
 - [1930] A. WALLQVIST, B. BERNE, AND C. PANGALI [1987]. *Exploiting physical parallelism using supercomputers: Two examples from chemical physics*, Computer, 20(5), pp. 9–21.
 - [1931] S. WALTON [1987]. *Performance of the one-dimensional fast Fourier transform on the hypercube*, in Heath [858], pp. 530–538.
 - [1932] H. WANG [1981]. *A parallel method for tridiagonal equations*, ACM Trans. Math. Softw., 7, pp. 170–183.
 - [1933] H. WANG [1982]. *On vectorizing the fast Fourier transform*, BIT, 20, pp. 233–243.
 - [1934] H. WANG [1982]. *Vectorization of a class of preconditioned conjugate gradient methods for elliptic difference equations*, Tech. Report, IBM Scientific Center, Palo Alto, CA.
 - [1935] W. WARE [1973]. *The ultimate computer*, IEEE Spectrum, 10(3), pp. 89–91.
 - [1936] H. WASSERMAN, M. SIMMONS, AND A. HAYES [1987]. *A benchmark of the SCS-40 computer: A mini-supercomputer compatible with the Cray X-MP/24*, Tech. Report LA-UR-87-659, Los Alamos National Laboratory, May.
 - [1937] P. WATANABE, J. FLOOD, AND S. YEN [1974]. *Implementation of finite difference schemes for solving fluid dynamic problems on Illiac IV*, Tech. Report T-11, Coordinated Science Laboratory, University of Illinois at Urbana-Champaign.
 - [1938] T. WATANABE [1987]. *Architecture and performance of NEC supercomputer SC system*, Parallel Computing, 5, pp. 247–256.
 - [1939] I. WATSON AND J. GURD [1982]. *A practical data flow computer*, Computer, 15(2), pp. 51–57.
 - [1940] W. WATSON [1972]. *The TI-ASC, a highly modular and flexible super computer architecture*, Proc. AFIPS, 41, pt. 1, pp. 221–228.
 - [1941] J. WATTS [1979]. *A conjugate gradient truncated direct method for the iterative solution of the reservoir simulation pressure equation*, Proc. SPE 54th Annual Fall Technical Conference and Exhibition, Las Vegas.
 - [1942] S. WEBB [1980]. *Solution of partial differential equations on the ICL distributed array processor*, ICL Technical Journal, pp. 175–190.
 - [1943] S. WEBB, J. McKEONN, AND D. HUNT [1982]. *The solution of linear equations on a SIMD computer using a parallel iterative algorithm*, Comput. Phys. Comm., 26, pp. 325–329.
 - [1944] R. WEED, L. CARLSON, AND W. ANDERSON [1984]. *A combined direct/inverse three-dimensional transonic wing design method for vector computers*, Tech. Report 84-2156, AIAA, Seattle, WA, August.
 - [1945] E. WEIDNER AND J. DRUMMOND [1982]. *Numerical study of staged fuel injection for supersonic combustion*, AIAA Journal, 20, pp. 1426–1431.
 - [1946] J. WEILMUNSTER AND L. HOWSER [1976]. *Solution of a large hydrodynamic problem using the STAR-100 computer*, Tech. Report TM X-73904, NASA Langley Research Center.

- [1947] J. WELSH [1982]. *Geophysical fluid simulation on a parallel computer*, in Rodrigue [1636], pp. 269–277.
- [1948] P. WHITE [1985]. *Vectorization of weather and climate models for the Cyber 205*, in Numrich [1462], pp. 135–144.
- [1949] R. WHITE [1985]. *Inversion of positive definite matrices on the MPP*, in Potter [1577], pp. 7–30.
- [1950] R. WHITE [1986]. *A nonlinear parallel algorithm with application to the Stefan problem*, SIAM J. Numer. Anal., 23, pp. 639–652.
- [1951] R. WHITE [1986]. *Parallel algorithms for nonlinear problems*, SIAM J. Algebraic Discrete Methods, 7, pp. 137–149.
- [1952] R. WHITE [1987]. *Multisplittings of a symmetric positive definite matrix*, Comput. Meth. Appl. Mech. Engrg., 64, pp. 567–578.
- [1953] R. WHITESIDE, N. OSLUND, AND P. HIBBARD [1984]. *A parallel Jacobi diagonalization algorithm for a loop multiple processor system*, IEEE Trans. Comput., C-33, pp. 409–413.
- [1954] O. WIDLAND [1984]. *Iterative methods for elliptic problems on regions partitioned into substructures and the biharmonic dirichlet problem*, Tech. Report 101, Department of Computer Science, Courant Institute, New York.
- [1955] O. WIDLAND [1988]. *Iterative substructuring methods: Algorithms and theory for elliptic problems in the plane*, Tech. Report 265, Department of Computer Science, New York University.
- [1956] B. WIENKE AND R. HIROMOTO [1985]. *Chaotic iteration and parallel divergence*, Tech. Report LA-UR-85-3597, Los Alamos National Laboratory.
- [1957] B. WIENKE AND R. HIROMOTO [1986]. *Parallel S_n iteration schemes*, Supercomputers, F. Matsen and T. Tajima, eds., University of Texas Press, pp. 399–414.
- [1958] R. WILHELMSON [1974]. *Solving partial differential equations using ILLIAC IV*, Constructive and Computational Methods for Differential and Integral Equations, A. Dold and B. Eckmann, eds., Springer-Verlag, New York, pp. 453–476.
- [1959] J. WILKINSON [1954]. *The calculation of the latent roots and vectors of matrices on the Pilot model of the ACE*, Proc. Camb. Phil. Soc., 50, Pt. 4, pp. 536–566.
- [1960] E. WILLIAMS AND F. BOBROWICZ [1985]. *Speedup predictions for large scientific parallel programs on CRAY-XM-P-like architectures*, Proc. 1985 Int. Conf. Par. Proc., pp. 541–543.
- [1961] S. WILLIAMS [1979]. *The portability of programs and languages for vector and array processors*, in Jesshope and Hockney [972], pp. 381–94.
- [1962] D. WILLIAMSON [1983]. *Computational aspects of numerical weather prediction on the Cray computer*, in Noor [1443], pp. 127–140.
- [1963] D. WILLIAMSON AND P. SWARZTRAUBER [1984]. *A numerical weather prediction model — Computational aspects*, Proc. IEEE, 72, pp. 56–67.
- [1964] E. WILSON [1976]. *Special numerical and computer techniques for finite element analysis*, Formulation and Computational Algorithms in Finite Element Analysis, MIT Press, Cambridge, MA, pp. 2–25.
- [1965] E. WILSON [1983]. *Finite element analysis on microcomputers*, in Noor [1443], pp. 105–116.
- [1966] E. WILSON AND C. FARHAT [1988]. *Linear and nonlinear finite element analysis on multiprocessor computer systems*, Comm. Appl. Numer. Meth., 4, pp. 425–434.
- [1967] K. WILSON [1982]. *Experience with an FPS array processor*, in Rodrigue [1636], pp. 279–314.
- [1968] O. WING [1985]. *A content addressable systolic array for sparse matrix computation*, J. Par. Dist. Comp., 2, pp. 170–181.
- [1969] O. WING AND J. HUANG [1977]. *A parallel triangulation process of sparse matrices*, Proc. 1977 Int. Conf. Par. Proc., pp. 207–214.
- [1970] O. WING AND J. HUANG [1980]. *A computational model of parallel solutions of linear equations*, IEEE Trans. Comput., C-29, pp. 632–638.
- [1971] A. WINKLER [1987]. *A parallel variational method for certain elliptic spectral problems*, Re-

- search Report RC12878, IBM.
- [1972] N. WINSOR [1981]. *Vectorization of fluid codes*, Finite Difference Techniques for Vectorized Fluid Dynamics Calculations, D. Book, ed., Springer-Verlag, New York, NY, pp. 152–163.
 - [1973] D. WISE [1985]. *Representing matrices as quadtrees for parallel processing*, Inf. Proc. Lettrs., 20, pp. 195–199.
 - [1974] D. WISE [1986]. *Parallel decomposition of matrix inversion using quadtrees*, Proc. 1986 Int. Conf. Par. Proc., pp. 92–99.
 - [1975] L. WITTIE [1980]. *Architectures for large networks of microcomputers*, Workshop in Interconnection Networks for Parallel and Distributed Processing, April, pp. 31–40.
 - [1976] L. WITTIE AND A. VAN TILBOUG [1980]. *Micros, a distributed operating system for Micronet, a reconfigurable network computer*, IEEE Trans. Comput., C-29, pp. 1133–44.
 - [1977] Y. WONG [1987]. *Approximate polynomial preconditioning applied to biharmonic equations on vector supercomputers*, Tech. Report NASA TM100217, NASA Lewis Research Center.
 - [1978] Y. WONG [1988]. *Solving large elliptic difference equations on Cyber 205*, Parallel Computing, 6, pp. 195–208.
 - [1979] Y. WONG AND J.-M. DELOSME [1987]. *Transformation of broadcasting into pipelining*, Tech. Report YALEU/DCS/RR-544, Department of Computer Science, Yale University.
 - [1980] P. WOO AND J. LEVEQUE [1982]. *Benchmarking a sparse elimination routine on the Cyber 205 and the CRAY-1*, Proc. 6th SPE Symposium on Reservoir Simulation.
 - [1981] P. WOODWARD [1982]. *Trade-offs in designing explicit hydrodynamic schemes for vector computers*, in Rodrigue [1636], pp. 153–171.
 - [1982] P. WORLEY [1988]. *Information Requirements and the Implications for Parallel Computation*, PhD dissertation, Stanford University, Department of Computer Science. Also published as STAN-CS-88-1212, Department of Computer Science, Stanford University.
 - [1983] P. WORLEY [1988]. *Limits on parallelism in the numerical solution of linear PDEs*, Tech. Report ORNL/TM-10945, Oak Ridge National Laboratory, October.
 - [1984] P. WORLEY AND R. SCHREIBER [1986]. *Nested dissection on a mesh-connected processor array*, New Computing Environments: Parallel, Vector and Systolic, A. Wouk, ed., Society for Industrial and Applied Mathematics, Philadelphia, pp. 8–38.
 - [1985] J. WORLTON [1981]. *A philosophy of supercomputing*, Tech. Report LA-8849-MS, Los Alamos National Laboratory.
 - [1986] J. WORLTON [1984]. *Understanding supercomputer benchmarks*, Datamation, 30(14), pp. 121–130.
 - [1987] A. WOUK, ed. [1986]. *New Computing Environments: Parallel, Vector, and Systolic*, Society for Industrial and Applied Mathematics, Philadelphia, PA.
 - [1988] C. WU, J. FERZIGER, D. CHAPMAN, AND R. ROGALLO [1984]. *Navier-Stokes simulation of homogeneous turbulence on the CYBER 205*, in Gary [700], pp. 227–239.
 - [1989] W. WULF AND C. BELL [1972]. *C.mmp — A multiminiprocessor*, Proc. AFIPS Fall Joint Comp. Conf., Reston, VA, AFIPS Press, pp. 765–777.
 - [1990] W. WULF AND S. HARBISON [1978]. *Reflections in a pool of processors*, Tech. Report, Department of Computer Science, Carnegie-Mellon University.
 - [1991] M. WUNDERLICH [1985]. *Implementing the continued fraction factoring algorithm on parallel machines*, Math. Comp., 44, pp. 251–260.
 - [1992] M. YASUMURA, Y. TANAKA, AND Y. KANADA [1984]. *Compiling algorithms and techniques for the S-810 vector processor*, Proc. 1984 Int. Conf. Par. Proc., pp. 285–290.
 - [1993] P.-C. YEW [1986]. *Architecture of the Cedar parallel supercomputer*, Tech. Report 609, Center for Supercomputing Research and Development, University of Illinois at Urbana-Champaign, August.
 - [1994] D. YOUNG [1971]. *Iterative Solution of Large Linear Systems*, Academic Press, New York.
 - [1995] D. YOUNG, T. OPPE, D. KINCAID, AND L. HAYES [1985]. *On the use of vector computers for solving large sparse linear systems*, Tech. Report CNA-199, Center for Numerical Anal-

- ysis, University of Texas at Austin.
- [1996] N. YOUSIF [1983]. *Parallel Algorithms for Asynchronous Multiprocessors*, PhD dissertation, Loughborough University.
 - [1997] N. YU AND P. RUBBERT [1982]. *Transonic flow simulations for 3D complex configurations*, in Cray Research, Inc. [423], pp. 41–47.
 - [1998] C.-P. YUAN [1987]. *Implementation of capacitance calculation program CAP2D on iPSC*, in Heath [858], pp. 485–494.
 - [1999] V. ZAKHAROV [1984]. *Parallelism and array processing*, IEEE Trans. Comput., C-33, pp. 45–78.
 - [2000] P. ZAVE AND G. COLE [1983]. *A quantitative evaluation of the feasibility of and suitable hardware structures for an adaptive parallel finite element system*, ACM Trans. Math. Softw., 9, pp. 271–292.
 - [2001] P. ZAVE AND W. RHEINBOLDT [1979]. *Design of an adaptive parallel finite element system*, ACM Trans. Math. Softw., 5, pp. 1–17.
 - [2002] E. ZMIJEWSKI [1987]. *Sparse Cholesky Factorization on a Multiprocessor*, PhD dissertation, Cornell University, Department of Computer Science, August.
 - [2003] E. ZMIJEWSKI AND J. GILBERT [1987]. *A parallel algorithm for sparse symbolic Cholesky factorization on a multiprocessor*, Parallel Computing, 7(2), pp. 199–210.
 - [2004] D. ZOIS [1988]. *Parallel processing techniques for FE analysis I. Stiffness loads and stresses evaluation. II System solution*, Computers and Structures, 28, pp. 247–274.



National Aeronautics and
Space Administration

Report Documentation Page

1. Report No. NASA CR-181764	2. Government Accession No.	3. Recipient's Catalog No.	
4. Title and Subtitle A BIBLIOGRAPHY ON PARALLEL AND VECTOR NUMERICAL ALGORITHMS		5. Report Date December 1988	
		6. Performing Organization Code	
7. Author(s) James M. Ortega, Robert G. Voigt, Charles H. Romine		8. Performing Organization Report No. Interim Report 6	
		10. Work Unit No. 505-90-21-01	
9. Performing Organization Name and Address Institute for Computer Applications in Science and Engineering Mail Stop 132C, NASA Langley Research Center Hampton, VA 23665-5225		11. Contract or Grant No. NAS1-18107, NAS1-18605	
12. Sponsoring Agency Name and Address National Aeronautics and Space Administration Langley Research Center Hampton, VA 23665-5225		13. Type of Report and Period Covered Contractor Report	
15. Supplementary Notes Langley Technical Monitor: Richard W. Barnwell Final Report		14. Sponsoring Agency Code	
16. Abstract This is a bibliography on numerical methods. It also includes a number of other references on machine architecture, programming language, and other topics of interest to scientific computing. Certain conference proceedings and anthologies which have been published in book form are listed also.			
17. Key Words (Suggested by Author(s)) numerical methods for parallel computation, parallel computer architecture, scientific computing		18. Distribution Statement 61 - Computer Programming and Software 64 - Numerical Analysis Unclassified - unlimited	
19. Security Classif. (of this report) Unclassified	20. Security Classif. (of this page) Unclassified	21. No. of pages 89	22. Price A05